March 23, 2022

IRREGULAR WARFARE TECHNICAL SUPPORT DIRECTORATE (IWTSD)

BROAD AGENCY ANNOUNCEMENT (BAA) 22S4385

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Due Date for Receipt of Phase 1 Submissions:

No Later Than Friday, April 22, 2022
All submissions are due by 3:00 p.m. Eastern Daylight Time (EDT) on the above date

Advanced Analytics (AA)
Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE)
Expeditionary Force Protection (EFP)
Explosive Ordnance Disposal and Explosive Operations (EOD-EXO)
Forensic Exploitation and Identity Operations (FEIO)
Human Performance and Training (HPT)
Indirect Influence and Competition (I2C)
Protection, Survivability, and Recovery (PSR)
Surveillance, Collection, and Operations Support (SCOS)
Tactical Offensive Support (TOS)

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The Broad Agency Announcement Information Delivery System (BIDS) is the system in which all submissions and communications will flow. Communications outside of BIDS may result in expulsion from the competition.

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1. INTRODUCTION.

This is an Irregular Warfare Technical Support Directorate (IWTSD) Broad Agency Announcement (BAA) issued under the provisions of paragraph 6.102(d)(2)(i) of the Federal Acquisition Regulation (FAR) to provide for the competitive selection of research proposals. Contracts based on responses to this BAA are considered to be the result of full and open competition and in full compliance with the provisions of Public Law (PL) 98-369 Section 2701, "The Competition in Contracting Act." Awards for submissions under this BAA are planned for Fiscal Year (FY) 2023. No contract awards will be made until appropriated funds are available from which payment for contract purposes can be made.

[NOTE: Persons submitting proposals are advised that only the Contracting Officer can obligate the Government to any agreement involving expenditure of Government funds.]

1.1. Approach.

A three-phased proposal selection process will be used for this BAA to minimize cost and effort for prospective offerors:

- Phase 1 will consist of the solicitation, receipt, and evaluation of a one-page Quad Chart and a one-page addendum.

- Phase 2 will consist of the solicitation, receipt, and evaluation of a White Paper and applies to only those submissions that have been accepted in Phase 1.

- Phase 3 will consist of the solicitation, receipt, and evaluation of a Full Proposal and applies to only those submissions that have been accepted in Phase 2. Based on the priority of critical requirements and the availability of funding, Phase 1 submissions can be selected for Phase 3 without a Phase 2 submission.

Clarifications to White Papers and Full Proposals may be requested.

1.1.2. Cost Type Contracts

Offerors interested in cost type contracts (to include Cost Plus Fixed Fee options) must have an accounting system determined adequate by Defense Contract Auditing Agency/ Defense Contract Management Agency (reference FAR 16.301-3(a)(3)). If no determination has been made, please contact BIDSHelp@iwtsd.gov for further guidance.

1.2. Small Business Set Aside.

The Government encourages nonprofit organizations, educational institutions, small businesses, small disadvantaged business (SDB) concerns, Historically Black Colleges and Universities (HBCU), Minority Institutions (MI), women-owned businesses, and Historically Underutilized Business zone enterprises as well as large businesses and Government laboratories to submit research proposals for consideration and/or to join others in submitting proposals; however, no portion of the BAA will be set aside for these special entities because of the impracticality of reserving discrete or severable areas of research and development (R&D) in any specific requirement area.

1.3. Limitation of Funds.
The Government intends to incrementally fund Cost Reimbursement contracts awarded from this BAA as provided by FAR 52.232-22, "Limitation of Funds." Most contracts awarded are anticipated to be 12 to 24 months in duration and at times may include additional 6 to12 month option(s). To facilitate incremental funding, submissions shall include the cost and schedule by a task-phased structure with clear exit criteria, and shall be inclusive of all work to complete the effort including any options. It is anticipated that the entire effort will be negotiated with the initial contract award.

[NOTE: Based upon the availability of funding, the Government may have to partially fund Fixed Price contracts in accordance with DFARS 252.232-7007, "Limitation of Government's Obligation." In such cases, milestone payments will need to be a part of the full proposal. Applicability of this issue will be stated in the email asking for a Phase 3 proposal.]

1.4. Technical Evaluation Support.
It is the intent of this office to use contractor support personnel in the review, evaluation, and administration of all submissions for this BAA. All contractor support personnel will have access to proprietary data and shall certify that they: (1) will not disclose any information pertaining to this solicitation including any submissions, the identity of any submitters, or any other information relative to this BAA; and (2) have no financial interest in any submissions evaluated, reviewed, and administered. Submissions and information received in response to this BAA constitutes permission to disclose that proposal data to certified evaluators under these conditions.

1.5. BAA Package Download.
This BAA Package can be downloaded electronically in its entirety from IWTSD BAA Information Delivery System (BIDS), https://bids.iwtsd.gov/, under Resources. Registration is not required to download the BAA package; however, BIDS registration is required to upload a response to the BAA.

1.6. BAA Contractual and Technical Questions.
All contractual and technical questions regarding this BAA, including the published requirements and instructions, must be posted via either the BAA and Requirement Questions feature, accessible from the BIDS homepage via Have a Question?, or emailed to BIDSHelp@iwtsd.gov. No other office personnel will acknowledge, forward, or respond to any inquiries received in any manner concerning the BAA. All questions must be received no later than 14 days after the release of the final BAA. Contractual questions and answers will be posted periodically under BAA Questions. Offerors are encouraged to periodically review BAA Questions, accessible from the BIDS homepage via Have a Question?.

1.7. BIDS Website Help Requests.
For technical help using BIDS, submit questions to BIDSHelp@iwtsd.gov or by using the button located under Have a Question?. Include a valid email address, your BIDS username, and a detailed description of the question or concern in the comments block. BIDS provides other valuable resources, such as Doing Business with the Government. Reference documents noted in this BAA, such as the Quad Chart Sample and IWTSD Cost Proposal Template, are available for

download under Resources on the homepage menu bar.

A list of BIDS FAQs can be found in the Have a Question? section of BIDS.

2. GENERAL INFORMATION.

This section includes information applicable to all awards under this BAA.

2.1. Eligibility.

To be eligible for contract award, a responsible offeror must meet certain minimum standards pertaining to financial solvency and resources, ability to comply with the performance schedule, prior record of satisfactory performance, integrity, organization, experience, operational controls, technical skills, facilities, and equipment. See FAR 9.104.

- All offerors must be registered in the System for Award Management (SAM) database prior to award at https://sam.gov/.

Other helpful information is provided under Doing Business with the Government on the BIDS homepage.

2.1.1. Who is eligible?

All private companies, educational institutions, non-profit organizations both large and small are able and encouraged to submit to the IWTSD BAA.

2.1.2. Federally Funded Research and Development Centers.

Only DoD-Sponsored Federally Funded Research and Development Centers (FFRDCs) can compete with commercial sector Vendor submissions and will be evaluated using the normal BAA process. For further information, reference DFARS 235.017-1.

2.1.3. Research Development and Engineering Centers (RDECs).

DoD Research Development and Engineering Centers (RDEC)s)/Labs, e.g., Naval Research Lab (NRL) may submit to the IWTSD BAA. Submissions from RDECs/DoD Labs will be evaluated only after all commercial sector Vendor and DoD-Sponsored FFRDC submissions have been evaluated and determined that such submissions did not meet the BAA requirement.

IWTSD will inform the RDECs through a BIDS notification at time of submitter registration that RDEC submissions will be reviewed last in the process, i.e., after all commercial sector Vendor and DoD Sponsored FFRDC submissions are reviewed and determined that none meet the BAA requirement. RDECs/DoD Labs will also be informed of this condition during registration in the BIDS system.

If an RDEC's/DoD Lab's submission meets the BAA requirement and all other commercial sector Vendor/DOD-Sponsored FFRDC submissions have been exhausted (i.e., post non-select), correspondence with the RDEC will occur directly (Government to

Government) to establish a SOW, deliverables, and MIPR/Work Order to commence the project.

2.2. Procurement Integrity, Standards of Conduct, Ethical Considerations.
Certain post-employment restrictions on former federal officers and employees exist including special Government employees (Section 207 of Title 18, United States Code (U.S.C.)). If a prospective offeror believes that a conflict of interest exists, the offeror should make this known to the Contracting Officer for resolution before time and effort are expended in preparing a proposal.

2.3. Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment.
FAR provision 52.204-24 applies to all BAA requirements. The full text of FAR provision 52.204-24 is below.

52.204-24 Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment (Nov 2021)

The Offeror shall not complete the representation at paragraph (d)(1) of this provision if the Offeror has represented that it "does not provide covered telecommunications equipment or services as a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual instrument" in paragraph (c)(1) in the provision at 52.204-26, Covered Telecommunications Equipment or Services—Representation, or in paragraph (v)(2)(i) of the provision at 52.212-3, Offeror Representations and Certifications-Commercial Products or Commercial Services. The Offeror shall not complete the representation in paragraph (d)(2) of this provision if the Offeror has represented that it "does not use covered telecommunications equipment or services, or any equipment, system, or service that uses covered telecommunications equipment or services" in paragraph (c)(2) of the provision at 52.204-26, or in paragraph (v)(2)(ii) of the provision at 52.212-3.

(a) *Definitions.* As used in this provision—

Backhaul, covered telecommunications equipment or services, critical technology, interconnection arrangements, reasonable inquiry, roaming, and substantial or essential component have the meanings provided in the clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

(b) *Prohibition.* (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. Nothing in the prohibition shall be construed to—

(i) Prohibit the head of an executive agency from procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Cover telecommunications equipment that cannot route or redirect user data traffic or cannot permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract or extending or renewing a contract with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract. Nothing in the prohibition shall be construed to—

(i) Prohibit the head of an executive agency from procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Cover telecommunications equipment that cannot route or redirect user data traffic or cannot permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(c) *Procedures*. The Offeror shall review the list of excluded parties in the System for Award Management (SAM) (https://www.sam.gov) for entities excluded from receiving federal awards for "covered telecommunications equipment or services".

(d) *Representation.* The Offeror represents that—

(1) It □ will, □ will not provide covered telecommunications equipment or services to the Government in the performance of any contract, subcontract or other contractual instrument resulting from this solicitation. The Offeror shall provide the additional disclosure information required at paragraph (e)(1) of this section if the Offeror responds "will" in paragraph (d)(1) of this section; and

(2) After conducting a reasonable inquiry, for purposes of this representation, the Offeror represents that—

It □ does, □ does not use covered telecommunications equipment or services, or use any equipment, system, or service that uses covered telecommunications equipment or services. The Offeror shall provide the additional disclosure information required at paragraph (e)(2) of this section if the Offeror responds "does" in paragraph (d)(2) of this section.

(e) *Disclosures.* (1) Disclosure for the representation in paragraph (d)(1) of this provision.

If the Offeror has responded "will" in the representation in paragraph (d)(1) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the original equipment manufacturer (OEM) or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(ii) For covered services—

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the Product Service Code (PSC) of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(2) Disclosure for the representation in paragraph (d)(2) of this provision. If the Offeror has responded "does" in the representation in paragraph (d)(2) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the OEM or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

(ii) For covered services—

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the PSC of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

(End of provision)

2.4. Restrictive Markings on Proposals.

All proposals should clearly indicate content disclosure limitations. Submissions can be marked as "Proprietary" or words to that effect; however, markings such as "Company Confidential" or other phrases that could be confused with national security classifications shall not be used. All paragraphs that contain proprietary information must be clearly marked. The Contracting Officer may challenge proprietary markings if they are not substantiated.

2.5. Submission Handling/Rights in Technical Data and Computer Software/Patent Rights.

2.5.1. Procurement Integrity.

The Government shall comply with FAR 3.104 in its treatment of information submitted in response to this BAA solicitation and marked with the individual's or company's legend.

2.5.2. Submission Information and FOIA.

Records or data bearing a restrictive legend can be included in the proposal. However, the offeror is cautioned that portions of the proposal are subject to release under the terms of the Freedom of Information Act (FOIA), 5 U.S.C. § 552, as amended. In accordance with FOIA regulations, the offeror will be afforded the opportunity to comment on, or object to, the release of proposal information.

2.5.3. Rights in Technical Data and Computer Software.

Rights in technical data and computer software and software documentation provided in the proposal are treated in accordance with the Department of Defense Federal Acquisition Regulation Supplement (DFARS) 252.227-7016, "Rights in Bid and Proposal Information." Rights in technical data, and computer software and computer software documentation in the resultant contract shall be in accordance with DFARS 252.227-7013 (regarding technical data) and DFARS Section 252.227-7014 (regarding computer software and software documentation). Both clauses (DFARS sections 252.227-7013 and 252.227-7014) will be included in any noncommercial contract exceeding the simplified acquisition threshold. Table 1 contains these and related clauses that may be included in the contract.

Table 1. Contract Clauses	
DFARS	**Title**
252.227-7013	Rights in Technical Data – Noncommercial Items
252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation
252.227-7016	Rights in Bid and Proposal Information
252.227-7017	Identification and Assertion of Use, Release, or Disclosure Restrictions
252.227-7019	Validation of Asserted Restrictions - Computer Software
252.227-7025	Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive
252.227-7027	Deferred Ordering of Technical Data or Computer
252.227-7028	Technical Data or Computer Software Previously Delivered to the Government
252.227-7030	Technical Data - Withholding of Payment
252.227-7037	Validation of Restrictive Markings on Technical Data

2.5.4. Patents.
Patents in existence and patent applications pending at the time of the proposal, which relate to the proposed effort, shall be identified in the White Paper and Full Proposal in accordance with the clauses above.

2.6. Product and Deliverable Requirements.

All proposal phases shall include the costs for products and data deliverable requirements. Minimum data (report) requirements include Monthly Status Reports (MSRs), meeting minutes and a Final Technical Report even if the research is to be continued under a follow-on contract or contract option. MSRs document program, technical, and financial status. The Final Technical Report summarizes the project and associated tasks at the conclusion of each contract. Include MSRs, the Final Technical Report, and any products and deliverables specific to the performance of the proposed effort (e.g., system specification). The Government will provide the offeror with a full listing of data deliverables (i.e., Contract Data Requirements List) in the request for Phase 3 Full Proposal. Additional products and deliverables could include prototype hardware, software, or systems; test plans; test and technical reports; technical data; specifications; requirements documents; computer programs or software; user manuals; drawings; or other products and data. The number, types, and preparation instructions for products and deliverables will be specified in the contract.

2.7. Distribution/Release Limitations.

The offeror should be aware that all resulting contracts or other awards will contain release limitations for all data resulting from the effort in accordance with DFARS 252.204-7000. This includes products, data, information, and services to be performed. The contractor shall protect all data and information from disclosure, and shall not release any data or information by any method of dissemination without prior Government approval.

2.8. Subcontracting.

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. § 637(d)), it is the policy of the

Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy.

2.9. Animal or Human Testing Compliance.

The contractor shall comply with all laws and regulations governing the use of animals or human subjects in research projects. Information regarding compliance requirements for using humans and animals in testing is also available on BIDS under Resources.

2.9.1. Animal Testing.

Any contract resulting from this BAA that potentially involves the testing of animals shall include the following language:

> Any contractor performing research on warm blooded vertebrate animals shall comply with the Laboratory Animal Welfare Act of 1966, as amended, 7 U.S.C. §§ 2131 - 2159, and the regulations promulgated thereunder by the Secretary of Agriculture in 9 C.F.R. Parts 1 through 4, pertaining to the care, handling, and treatment of vertebrate animals held or used for research, teaching, or other activities supported by Federal contract awards. In addition, the contractor shall comply with the provisions of Department of Defense Instruction (DoDI) 3216.01, as implemented by SECNAVINST 3900.38C, and DFARS 252.235-7002, "Animal Welfare," which is incorporated into this contract.

2.9.2. Human Subjects Research.

Any contract resulting from this BAA that potentially involves human subjects, their data or biospecimens, in research or study shall include the following language:

The contractor shall comply with all regulations promulgated by the Department of Defense in 32 C.F.R. Part 219, pertaining to the protection of human subjects, their data or biospecimens. In addition, the contractor shall comply with the provisions of DoDI 3216.02 and DFARS clause 252.235-7004. If human subjects, their data or biospecimens are to be involved at any time during the project, the contractor shall provide documentation of the activity's review as outlined in DoDI 3216.02. The contractor shall submit these documents to IWTSD and ensure that they are received and formally approved through signed memoranda by IWTSD prior to the start of any research involving human subjects. Collaborators with the contractor shall also comply with DoDI 3216.02. The contractor shall report all changes to the contract or protocol as specified in DoDI 3216.02 to the IWTSD Human Research Protection Official (HRPO) and Contracting Officer's Representative as they occur. Release of initial and follow-up funding will be contingent upon meeting the DoDI 3216.02 requirements.

2.10. Submission Document Language.

All submission documents must be in English.

3. PROPOSAL PREPARATION.

This section provides information and instructions for the preparation and submission of all phases under this BAA. All submissions must meet these requirements including format, content, and structure, and must include all specified information to avoid disqualification, submission rejection, or delays in evaluation.

3.1. BAA Information Delivery System (BIDS).

BIDS at https://bids.iwtsd.gov/ is used: (1) to provide public access to the BAA package; (2) to collect all unclassified submissions; and (3) to collect placeholder records for all classified submissions. BIDS also provides submission progress tracking, evaluation comment collection, and results notification back to the submitter.

3.1.1. Submitter Registration.

A BIDS submitter registration is required to respond to this BAA. A new BIDS system was activated on February 15, 2020. All vendors who had registered before this date, must re-register in the system. Registrations should reflect the offeror's contracting or business authority. The username, created by the offeror, must be unique and is used for BIDS log in and submission tracking. Registration acceptance for submitters is automatic, but takes several seconds to be recognized by BIDS. A success email will be sent to indicate that the username and account are accepted. BIDS is email dependent and uses the registration email as the single point of contact (POC) for all notifications associated with the BAA. This email address should be monitored frequently during the BAA process for the notices. Submitters should periodically check status in their account, not receiving a notification email does not constitute grounds to appeal an evaluation decision. Spam blockers and other email security software may cause a notification email to be rejected; check your account. Email addresses included in the submissions or any other data field in BIDS will not be used for contact and notification purposes.

3.1.2. User Accounts and Password Resets.

Registration account information such as the POC, email, and password can be updated after log in. The Forgot your Password? link on the BIDS login page allows registered users with a valid username to automatically reset a password. The system will verify the account username and email and then send a new password to that email.

3.1.3. Registration and Account Help.

BIDS help requests can be emailed to BIDS administrators at BIDSHelp@iwtsd.gov or submitted via the button located on the Have a Question? page.

3.1.4. Document Identifier.

The offeror shall include the document identifier in the header of each submission. Document identifiers must match the BIDS submission record and should be constructed before upload to BIDS.

3.1.4.1. Constructing Document Identifiers.

Document identifiers, auto-generated in part by BIDS, are based on Subgroup, the requirement number, the username, and a Vendor Internal Tracking (VIT)

number. The underlined portion of the sample shown in Table 2 depicts the segment automatically formed by BIDS.

Table 2. Sample Document Identifier and Components Definition

CBRNE-1112-ABCCORP-10703JT-QC	
From Sample	Document Identifier Component
CBRNE	subgroup designation - from BAA
1112	requirement number - from BAA
ABCCORP	username - from BIDS registration
10703JT-QC	VIT number - any alphanumeric combination (with no special characters or spaces) created by the submitter for (submitter) tracking purposes along with the **document type suffix**

3.1.4.2. Creating Vendor Internal Tracking (VIT) Numbers.

VIT numbers are unique identifiers created by submitters and entered in the submission record during the upload process. VIT numbers can be any alphanumeric combination (no special characters or spaces) chosen by the submitter plus a suffix indicating the document type. BIDS enforces unique VIT numbers and will not allow the submission record to be saved if the VIT number has already been used. Table 3 provides sample VIT numbering formats for each document type.

Table 3. Sample VIT Numbers for an Accepted Submission

Document Type	Auto-generated by BIDS	VIT#
Quad Chart +1-page addendum	CBRNE-1112-ABCORP	10703JT-QC
White Paper	CBRNE-1112-ABCORP	10703JT-WP
Full Proposal	CBRNE-1112-ABCORP	10703JT-FP

Offerors uploading more than one submission to the same requirement shall create unique identifiers by adding a numbered sequence to the document type suffix. Table 4 offers sample VIT number formats for multiple submissions to the same requirement.

Table 4. Sample VIT Numbers for Multiple Submissions to the Same Requirement

Submission #	Auto-generated by BIDS	VIT# Sample 1	VIT# Sample 2*
Submission 1	CBRNE-1112-	10703JT-QC1	QC1
Submission 2	CBRNE-1112-	10703JT-QC2	QC2
Submission 3	CBRNE-1112-	10703JT-QC3	QC3
* NOTE: If the submitter does not require an internal tracking number, use the document type designation.			

3.2. BIDS Security and Access Control.

All data uploaded to BIDS is secure from public view and download. All submissions will be considered proprietary/source selection sensitive and protected accordingly. The documents can only be reviewed by the registrant and authorized Government and contractor representatives with no conflict of interest.

3.3. Submission Changes.

Changes to uploaded submissions are permitted up to the closing date and time. If a modification is required, update the original file in the source application and save. Convert to an acceptable format (detailed below) if applicable. In BIDS, open the submission record under **Previously Uploaded Proposals**. Only submissions with the **Update Proposal** status can be modified. Changes can be made after clicking on the submission link. Click on the trash icon to delete the old file. Use **Choose File** to select the revised document. Click **Save Proposal** to save the changes. Documents cannot be edited online through the BIDS interface. File names must contain no spaces or special characters. Ensure the file size does not exceed the prescribed limits. To completely remove a submission from consideration, select **Delete Proposal**. Changes after the submission due date and time are not permitted.

3.4. Special Handling Procedures for Classified Information.

If a submission contains classified information, the offeror must first create a placeholder record in BIDS with an unclassified cover page attachment. Identify in the placeholder document that the submission cannot be uploaded due to classification and include the method of delivery (hand-carried, secure fax, secure mail, etc.) as well as the tracking number, if applicable. The BIDS Document Identifier must be clearly identified on the mailed document(s). Classified responses (up to SECRET) must be appropriately and clearly marked (including all paragraphs and pages containing the subject data), packaged, and shipped in accordance with classified material handling procedures and security regulations pertaining to the level of classification for that document. To obtain mailing instructions for classified submissions, email: BIDSHelp@iwtsd.gov.

Classified submissions must be received by the applicable due date and time. Classification in no way eliminates the offeror's requirement to comply with all BAA instructions.

3.5. Phase 1 Submissions.

Offerors shall prepare and upload a one-page Quad Chart and a one-page addendum in response to Phase 1 of this BAA. All pages shall be 8 ½ by 11 inches. Use Times New Roman font size 10 point or greater. Single spacing is preferred for the addendum. If more than two pages (i.e., the Quad Chart plus the addendum) are submitted, only the first two pages will be evaluated. Phase 1 submissions do not require a cover page.

3.5.1. Phase 1 Due Date and Time.

All unclassified Quad Charts must be received electronically through BIDS no later than 1500 (3:00 p.m.) Eastern Daylight Time (EDT) on the date specified on the cover of this document. Likewise, classified submissions must be received by the same due date and time. Offerors must create a placeholder record in BIDS with an unclassified cover page attachment. Refer to section 3.4 of this BAA for instructions on classified submissions. BIDS does not allow proposals to be uploaded or classified placeholders to be created

after the closing date and time. Any proposal, regardless of classification, submitted by any other means, or that is late, will not be considered by the Government. Avoid the last minute rush; submit early.

3.5.2. Electronic File Format.

The Quad Chart and addendum shall be submitted in a single file. This file must be in Portable Document Format (.pdf). Adobe Acrobat and MS Word can generate such files. The document must be print-capable, without password, and no larger than 1024 KB. File names cannot contain spaces or special characters. Apple users must ensure the entire file name and path are free of spaces and special characters. Submissions that cannot be opened, viewed, or printed will not be considered.

[NOTE: ZIP files and other application formats, such as Microsoft Office (.docx or .pptx) are NOT acceptable.]

3.5.3. Quad Chart and Addendum Content.

A Quad Chart conveys the essence of the proposed solution for a single requirement. When preparing a submission, the offeror shall ensure that the specific criteria of the requirement are addressed, the solution is clear, and can be accomplished with the proposed technology, cost, and schedule. The Quad Chart includes a document header and four quadrants. The Quad Chart format and sample are provided on BIDS under Resources.

3.5.3.1. Header Information.

Header information shall include the BAA number, the Document Identifier, and the Proposal Title. The date and company name should be included along with the appropriate document markings.

3.5.3.2. Top Left Quadrant, Graphical Depiction.

The top left quadrant is a graphical depiction, photograph, or artist's concept of the proposed solution or prototype. Include labels or brief descriptive text as needed for clarification. Ideally, this will convey the prototype concept, use, capability, and any relevant size or weight relationships based on the published requirement.

3.5.3.3. Top Right Quadrant, Operational and Performance Capabilities.

The top right quadrant contains the operational and performance capabilities summary. Describe any basic, new, or enhanced capabilities the system will provide to meet the published requirement. In bullet form, list key aspects of performance, capability, operational use, relevant software or hardware specifications, and planned interface and/or compatibility.

3.5.3.4. Bottom Left Quadrant, Technical Approach.

The bottom left quadrant contains the proposed technical approach. Specifically, describe the technology involved, how it will be used to solve the problem, actions done to date, and any related ongoing efforts. Briefly describe the tasks to

be performed for each phase. A bulleted list is acceptable.

3.5.3.5. Bottom Right Quadrant, Cost and Schedule.
The bottom right quadrant contains the Rough Order of Magnitude (ROM) and Schedule, Products and Deliverables, and Corporate Contact Information. ROM and Schedule shall be proposed by phase and include the cost, period of performance (POP), and exit criteria for each phase. A total cost and POP that combines all phases, all applicable data requirements and minimum data report requirements (e.g., MSR, meeting minutes, Final Technical Report, etc.) shall also be included. Products and Deliverables shall include, by phase, a list of all prototype hardware and software along with the required data as described in "Product and Deliverable Requirements" in section 2.6. of this document. Corporate contact information shall include the submitter's company name, POC, phone number, and email address. Include any significant teaming partner (contact information) relevant to the evaluation.
[NOTE: The contact information in the BIDS registration is used for all notices and contact purposes.]

3.5.3.6. Addendum
The offeror shall use the addendum to describe the technical solution in greater detail.

3.5.4. Phase 1 Notification to Offeror.
The Government will notify the offeror when a submission has been accepted or rejected. Notification of acceptance with a request to submit the next phase document will be emailed to the offeror's contracting authority as entered in the BIDS registration and will indicate the next submission type, clarification requests, and due date and time. Likewise, rejection notifications will be emailed to the address provided in the BIDS registration. Debriefings for Phase 1 submissions will not be conducted due to the nature of BAAs.

In general, submissions are not considered for further review when they do not meet the basic requirement, are too costly, or do not fit the mission. All Phase 1 submissions are evaluated in accordance with Section 4, Proposal Evaluation, of this BAA.

3.5.5. Phase 1 Status and Inquiries.
Phase 1 is complete when all submissions have been accepted or rejected in accordance with this BAA. Inquiries outside of the BIDS system (e.g., phone, email, etc.) concerning the status of Phase 1 submissions will not be accepted. After BIDS log on, submitters are able to check the status of their submission(s) under **Previously Uploaded Proposals.**

3.6. Phase 2 White Paper Submissions.
Offerors shall prepare and upload a White Paper with no more than twelve (12) pages plus a cover page in response to Phase 2 of this BAA. The cover page template is provided at the BIDS website under Resources. The cover page is excluded from the White Paper page count. All submission pages shall be 8 ½ by 11 inches, double-spaced with Times New Roman font no smaller than 10 point; all margins shall be one inch. Each page of the submission shall contain

the document identifier in the document header. If the White Paper contains more than 12 pages including tables, charts, and figures, only the first 12 pages will be evaluated.

3.6.1. Phase 2 Due Date and Time.
All unclassified White Papers must be received electronically through BIDS no later than the due date and time specified in the Phase 1 Quad Chart acceptance email. Likewise, classified submissions must be received by the same due date and time; offerors must create a placeholder record in BIDS with an unclassified cover page attachment. Refer to section 3.4 of this BAA for instructions on classified submissions. BIDS does not allow proposals to be uploaded or for classified submissions to be created after the due date and time. Any proposal, regardless of classification, submitted by any other means, **or that is late**, will not be considered by the Government.

3.6.2. Electronic File Format.
The White Paper shall be submitted in a single file. This file must be in Portable Document Format (.pdf). Adobe Acrobat and MS Word can generate such files. The document must be print-capable, without password, and no larger than 2048 KB. File names cannot contain spaces or special characters. Apple users must ensure the entire file name and path are free of spaces and special characters. Submissions that cannot be opened, viewed, or printed will not be considered.

[NOTE: ZIP files and other application formats, such as Microsoft Office (.docx or .pptx) are NOT acceptable.]

3.6.3. Phase 2 Document Upload.
To upload a next phase document, use the link back to BIDS provided in the acceptance email, or log in to BIDS and navigate to Requested Proposals to open the accepted record. Review the checklist then click Create Proposal and follow the instructions.

3.6.4. White Paper Content.
White Papers shall provide a description of the technical approach, the specific tasks and deliverables by phase, schedule and cost estimate by phase, intellectual property and government rights, transition planning for production, and a capability statement. The offeror shall incorporate all clarification data requests from the acceptance email into the submission. Indicate clarification entries by footnote and reference the requested item(s) in the footer area. The following White Paper sections and details are required.

3.6.4.1. Cover Page.
A cover page template is provided BIDS under Resources. The cover page includes necessary contractual information including the offeror's contracting POC (name, telephone number, email address, facsimile number, mailing address) and business information (Data Universal Numbering System (DUNS) number, Commercial and Government Entity (CAGE) code, business type). Include the proposed contract type, total cost, and the duration of all phases/tasks. The cover page is excluded from the page count.

3.6.4.2. Technical Approach.

Describe the proposed solution relative to the requirement. Focus content on operational capabilities required to address the problem, the underlying theory that supports the operational capability, and suggested concept of operations. Identify end users that could be interested in the proposed solution and describe how the solution will be a benefit. Include drawings, diagrams, charts, and tables needed to explain the effort. Describe if, and where, the proposed technology/solution has been, or is being used. Identify sponsoring agency and funding resources; or if none, so state.

3.6.4.3. Tasks and Deliverables.
Identify the proposed tasks by phase in the order of occurrence. A phase must have clear exit criteria to serve as a "go" or "no-go" decision point to proceed to the next phase. Identify work that will be performed by other organizations or agencies. Identify anticipated technical risks along with planned mitigation efforts. Indicate any Government furnished material (GFM), equipment (GFE), or information (GFI) that will be required with the task and need date; or state if none. For each phase include the exit criteria and all products and deliverables as defined in section 2.6 of this BAA. State if a phase is proposed as an option.

3.6.4.4. Schedule.
Develop a master project schedule preferably in Gantt chart format. The schedule shall indicate the planned start and stop point for each phase with top level subordinate tasks, estimated delivery dates, and completion dates. Indicate the total project POP in months using January 30th as a notional start date through the completion date. Please address plan to ensure timely delivery of supplies in a restrictive global supply chain environment.

3.6.4.5. Cost.
Provide the proposed, task-phased budgetary estimate inclusive of any proposed options. At a minimum, this estimate shall detail estimated labor hours and costs, anticipated material costs, product and deliverable costs (see section 2.6. of this BAA), and other costs (e.g., subcontracts, indirect rates, profit or fee rate) for each phase/task. Costs allocated to other organizations (e.g., Government testing) shall be clearly shown; or state if none. Changes in cost from those proposed in the prior submission shall be explained. Address any concerns regarding material that will be needed that may be associated with global supply chain delays and cost control measures to ensure contract remains within negotiated material costs.

3.6.4.6. Intellectual Property, Technical Data, and Software.
Disclose/discuss all intellectual property, technical data, and/or software rights that are intended to be used in connection with this submission. See section 2.5 of this BAA for additional information.

3.6.4.6.1. Patents and Patent Applications.
Identify any existing, applied for, or pending patents that will be used in the conduct of this effort. Provide patent number with date of issue and

title or patent application number with filing date and title. Any patent or patent application that resulted from prior government funding should be identified. If no patents or patent applications are relevant, so state. See section 2.5 of this BAA for additional information.

3.6.4.6.2. Rights in Technical Data and Software.
Identify any technical data and/or computer software that will be delivered with less than unlimited rights as prescribed in DFARS 252.227-7013 and DFARS 252.227-7014. State if unlimited rights in technical data are proposed. See section 2.5 of this BAA for additional information.

3.6.4.7. Transition from Prototype to Production.
Describe the overall strategy to transition the results of this development effort to production once the funded effort is concluded. Briefly describe the overall strategy for transition, potential partners, transition issues to include any obvious regulatory, liability, interoperability, or financing issues. Discuss the interaction with representative users and the concept for test and evaluation by those users and follow on support of a product resulting from this effort.

3.6.4.8. Organizational Capability Statement.
Describe the offeror's capability and/or experience in doing this type of work. Identify technical team members or principal investigators and associated expertise. If applicable, include a description of co-participants' capabilities and/or experience. State whether an agreement has been reached (or not) with the co- participants. The offeror is only required to submit past performance information in response to a request for Full Proposal.

3.6.5. Phase 2 Status and Inquiries.
Phase 2 is complete when all submissions have been accepted or rejected in accordance with this BAA. Inquiries outside of the BIDS system (e.g., phone, email, etc.) concerning the status of White Papers will not be accepted. After login to the BIDS website, submitters are able to check the status of their submission(s) under Previously Uploaded Proposals.

3.6.6. Phase 2 Notifications to Offeror.
The Government will notify the offeror when a submission has been accepted or rejected. Notification of acceptance with a request to submit the next phase document will be emailed to the offeror's contracting authority as entered in the BIDS registration and will indicate the next submission type, clarification requests, and due date and time. Likewise, rejection notifications will be emailed to the address provided in the BIDS registration. **Debriefings for White Papers will not be conducted due to the nature of BAAs**. In general, submissions are not considered for further review when they do not meet the basic requirement, are too costly, do not fit the mission, or funding is not expected. All White Papers are evaluated in accordance with section 4. Proposal Evaluation, of this BAA.

3.7. Phase 3 Full Proposal Submissions.

Offerors shall prepare and upload a Full Proposal, consisting of a Technical Proposal in Portable Document Format (.pdf), a completed IWTSD Cost Proposal template (using the Microsoft Excel format provided by IWTSD) along with a supporting Cost Narrative pdf, plus a cover page, in response to Phase 3 of this BAA. All pages shall be 8 ½ by 11 inches, double-spaced with Times New Roman font no smaller than 10 point; all margins shall be one inch. Each page of the submission shall contain the document identifier in the document header. The Technical Proposal must be no more than 50 pages including tables, charts, and figures. If the document contains more than 50 pages, only the first 50 pages will be evaluated. All paragraphs containing proprietary information must be clearly marked. The Cost Proposal has no page limit; however, unnecessarily elaborate or information beyond those sufficient to present a complete and effective response is not desired.

Disclaimer - To minimize the cost and effort for submitters, Phase 3, Full Proposals, will only be requested for qualifying solutions that have a high probability of award; however, the Government reserves the right to cancel requirements, or any request for proposals for this solicitation, at any time prior to award and shall not be liable for any cost of proposal preparation or submission.

3.7.1. Phase 3 Due Date and Time.

All unclassified Full Proposals must be received electronically through BIDS no later than the due date and time specified in the acceptance email. Likewise, classified submissions must be received by the IWTSD Security Office by the due date and time; offerors must create a placeholder record in BIDS with an unclassified cover page attachment. Refer to section 3.4 of this BAA for instructions on classified submissions. BIDS does not allow proposals to be uploaded or classified placeholders to be created after the due date and time. Any proposal, regardless of classification, submitted by any other means, **or that is late, will not be considered** by the Government.

3.7.2. Electronic File Format.

The technical proposal must be submitted in **Portable Document Format (.pdf).** The IWTSD Cost Proposal Template (MS Excel) must be completed and submitted with formulas visible and the document unlocked. A supporting cost narrative must be submitted in **Portable Document Format (.pdf).**

The document must be print-capable, without password, and no larger than 2048 KB. File names cannot contain spaces or special characters. Apple users must ensure the entire file name and path are free of spaces and special characters. Submissions that cannot be opened, viewed, or printed will not be considered.

3.7.3. Phase 3 Document Upload.

To upload a next phase document, locate and open the accepted record under Requested Proposals. Review any available files (e.g., SOW, CDRLS) and the checklist, then click Create Proposal and follow the instructions.

3.7.4. Full Proposal Components.

Full Proposal shall consist of three major sections (Technical Proposal and Cost Proposal with a supporting Cost Narrative) described in this document, and can be uploaded to BIDS as three separate files each limited to 2048 KB.

- The first section is the technical proposal and shall include all information related to the proposal as specified in this BAA including figures, charts, and tables plus the cover page.

- The second section is the cost proposal, which will show a breakdown of costs by CLIN as well as phase using the Cost Proposal template. **This template is available on the Resources page of BIDS.**

    - Part of the cost proposal is a cost narrative that includes all cost data as well as an explanation of changes in cost from those proposed in the prior submission. Additionally, the offeror will include a cover page as follows:

      A cover page template is provided at the BIDS website under Reference Materials. The cover page includes necessary contractual information including the offeror's contracting POC (name, telephone number, email address, facsimile number, mailing address) and business information (DUNS number, CAGE code, business type). Include the proposed contract type, total cost, and the duration of all phases/tasks.

3.7.5. Technical Proposal Content.
The Technical Proposal shall provide a technically detailed solution of the problem addressed in the requirement and fully expand the technology proposed in the prior submissions. The following sections and associated data are required. The offeror shall incorporate all clarification data requests in the Phase 2 acceptance email. Indicate clarification entries by footnote and reference the requested item(s) in the footer area.

3.7.5.1. Table of Contents.
The technical proposal shall include a table of contents noting the page number of each section detailed below. The table of contents is excluded from page count.

3.7.5.2. Abstract.
The abstract is a one-page (or less) synopsis of the proposal that includes the title and the basic approach to satisfy the requirement. Describe the overall scope of work to be performed for the entire period of performance, inclusive of options. The abstract shall stand alone and be suitable for release under the Freedom of Information Act, 5 U.S.C. § 552, as amended.

3.7.5.3. Executive Summary.
An executive summary is a concise description of the technology and solution being proposed. Include key information that demonstrates how the proposed solution meets the published requirement. The executive summary should not introduce any new information not covered in the subsequent content.

3.7.5.4. Technical Approach.

Describe the technical approach for the proposed solution to meet the requirement. Include technical details of the solution and fully expand the technology proposed in the prior phase submission. Include the methodology, underlying theory, system components, and operational scenario for the intended users. Include drawings, diagrams, charts, and tables needed to explain the effort. Describe relevant prior application of the proposed technology and/or solution, how it is being used, and by whom. Identify sponsoring agency and funding resources; or if none, so state. If subcontractors are proposed, include a detailed description of the effort that they will be performing in support of or in addition to the prime.

3.7.5.5. Project Plan.

The project plan shall be organized by phase and describe the work to be performed along with all associated requirements to successfully complete the proposed effort. Include a summary of the individual phases to follow.

3.7.5.5.1. Phases.

Phases shall be defined by the subset of tasks to be performed, phase objectives to be accomplished, and the required POP to completion. Phases shall be listed in order of occurrence. Identify phases that are optional. Each phase must contain clear exit criteria that is measurable evidence of completion and serves as a “go” or “no-go” decision point. Each phase shall include a total cost.

3.7.5.5.2. Tasks Within a Phase.

For each task, provide a detailed description of the work to be performed. Identify any work that will be performed by other organizations or agencies; or if none, so state. Indicate if an agreement is in place for the resources.

3.7.5.5.3. Products and Deliverables.

Identify all deliverables - products as well as documentation and reports - for each Task/Phase. Refer to section 2.6 of this BAA for minimum reporting requirements, and additional products and deliverables in performance of the effort proposed.

3.7.5.6. Master Schedule.

Develop a master project schedule that includes phase start and stop dates as well as major milestones, critical tasks, and report and product delivery dates. Assume a start date immediately upon execution of contract. This may range between December and March. Indicate any optional phases.

3.7.5.7. Government Furnished Equipment.

Reasonably identify all Government furnished equipment (GFE), materials, facilities, or information with the need date and suggested source at the time of proposal submission. GFE includes, but is not limited to: Government email accounts, SIPRNET access, Common Access Cards (CACs), and/or space at an IWTSD or other Government facility (e.g., permanent residence, temporary residence, or testing). Upon identifying GFE, if an offeror's proposal is selected for contract award, the proposed GFE will be identified in the resulting contract. Failure to adequately identify necessary GFE may result in contract termination due to the offeror's inability to perform under this competitive source selection. State if Government equipment, materials, facilities, or information are not required.

3.7.5.8. Project Risks and Mitigation.
Identify anticipated technical and management risks along with planned mitigation efforts. Indicate the risk assessment as high, medium, or low.

3.7.5.9. Organizational Capability Statement.
Include a brief description of the offeror's organization. Describe the offeror's capability and/or experience in doing the type of work being proposed. If applicable, include a description of co-participants' capabilities and/or experience. State whether an agreement has been reached with the co-participants. Provide at least three references, to include points of contact, for like or similar work.

3.7.5.10. Organizational Resources.
Identify key technical personnel and principal investigator(s) including alternates and co-participants, if applicable. Include a brief biography, relevant expertise, and a list of recent publications for each. Identify any team members with potential conflicts of interest. Possible conflicts of interest include personnel formerly employed by the federal Government within the past two years from the date of proposal submission. Provide name, duties, employing agency, and dates of employment; or state if none.

3.7.5.11. Intellectual Property, Technical Data, and Software.
All anticipated intellectual property, technical data or software rights shall be disclosed. See section 2.5 of this BAA for additional information.

3.7.5.11.1. Patents and Patent Applications.
Identify any existing, applied for, or pending patents that will be used in the conduct of this effort. Provide patent number or application number and title. Any patent that resulted from prior Government funding should be identified. State if no patents or patent applications are relevant.

3.7.5.11.2. Rights in Technical Data.
State if unlimited rights in technical data are proposed. If not, identify any technical data and/or computer software that will be delivered with less than unlimited rights as prescribed in DFARS 252.227-7013 and DFARS

252.227- 7014. When less than unlimited rights are proposed, a data rights assertion table shall be provided as prescribed in DFARS 252.227-7017.

3.7.5.12. Transition from Prototype to Production.
Describe the approach and issues related to transition or commercialization of the results of this effort to an operationally suitable and affordable product for the intended users to include the following. The cost to prepare the Transition Plan should be included in the proposed costs. The cost to prepare the Transition Plan should be detailed in the cost proposal. Additional information regarding the Transition Plan can be found in the IWTSD Technology Transition Handbook located on BIDS under Resources.

[NOTE: If the specific requirement will not reasonably result in a prototype (e.g., study, service requirement), state "Not Applicable to this Requirement" and justify why.]

3.7.5.12.1. Transition Strategy.
Provide the overall strategy for transition to production (licensing, partnering, or venturing) along with the associated timelines for actions associated with the transition. Describe the roles of current development partners, subcontractors, or other organizations that will be leveraged. If the offeror is not a commercial entity, indicate if a commercial partner has been identified. Discuss barriers to commercialization, such as anticipated regulatory issues (such as environmental, safety, health, and transportation), liability issues, interoperability, and financing, and planned steps to address these barriers.

3.7.5.12.2. Transition Approach.
Describe the type and level of effort envisioned to take the technology from its state at the end of the development effort to a production ready, affordable, operationally suitable product (such as size and/or weight reduction, packaging, environmental hardening, integration, additional test and certification). Provide an estimate of any costs to transition the prototype to low rate initial production. Provide the estimated production unit price for the end users.

3.7.5.12.3. Test and Evaluation.
Describe the plan to involve representative users during the design and development process and the general plan for test and evaluation by representative end users. If the phases of performance include representative user test and evaluation: (1) ensure coordination of user participation is thoroughly discussed in the technical approach; and (2) state "Representative User Participation will occur during contract performance."

3.7.5.12.4. Operational Support.

Describe the estimated level of training needed to prepare users to utilize the product in an operational environment. Discuss the anticipated support concept such as level(s) of repair, spare parts, warranties, operation and maintenance technical manuals, simulators, and other logistics considerations.

3.7.5.13. Human Subjects and Animal Testing.
The proposal shall provide a statement regarding the anticipated use of human subjects or animals in testing, or state if none. If yes, procedures for complying with all laws and regulations governing the use of animals or human subjects in research projects shall be included in the technical proposal. See section 2.9, "Animal or Human Testing Compliance" in this document for details.

3.7.5.14. Environmental Impact.
The proposal shall provide a statement regarding the impact of the work proposed on the environment. State if no impact exists.

3.7.5.15. Classification and Security.
If the offeror is proposing to perform research in a classified area, indicate the level of classification of the research and the level of clearance of the potential principal investigator and all proposed personnel. The contractor shall include facility clearance information. Also, the contractor shall indicate the Government agency that issued the clearances. State if the proposed effort is unclassified.

3.7.5.16. Subcontracting Plan.
If the total amount of the proposal exceeds $750,000 and the offeror is not a small business, the offeror shall submit a subcontracting plan for small business and small socially and economically disadvantaged business concerns. A mutually agreeable plan will be included in and made a part of the resultant contract. The contract cannot be executed unless the contracting officer determines that the plan provides the maximum practicable opportunity for small business and small disadvantaged business concerns to participate in the performance of the contract. The Subcontracting Plan/information is excluded from page count.

3.7.6. Cost Proposal.
The offeror and each significant subcontractor, if any, shall fill out the IWTSD Cost Proposal Template (available on BIDS under Resources) and submit all supporting cost or pricing data along with any other supporting attachments. All prepared spreadsheet formulas must be accessible. As soon as practicable after agreement on price, but before contract award, the offeror shall submit a Certificate of Current Cost or Pricing Data for contracts exceeding $2,000,000 as prescribed by FAR 15.406-2.

[NOTE: To determine the reasonableness of the cost proposal, the Government may request additional supporting documentation for proposed costs.]

3.7.6.1. Cost Narrative.

Provide a narrative discussing/substantiating elements of the cost proposal. Provide a separate summary of the total cost for each phase and for the total of the entire effort proposed. Indicate optional phases. Explain changes in cost from those proposed in the previous submission. The Cost Narrative must be submitted in PDF (.pdf) format with Times New Roman font no smaller than 10 point.

3.7.6.1.1. Table of Contents.
The cost narrative shall include a table of contents noting the page number of each section detailed below.

3.7.6.1.2. Direct Labor Costs.
Detail the direct labor cost estimate by showing the breakdown of labor hours, rates, cost for each category, and furnish the basis for the estimates.

- *Labor Category*. Include a detailed description of the category.
- *Labor Hours.* Include a Basis of Estimate for the proposed hours. Detail hours to be worked by each labor category proposed per each task, per each fiscal year and cumulatively.
- *Labor Rates*. Rates shall be in accordance with established rate agreements. If no rate agreement exists, use payroll data with actual rates to substantiate the proposed rates. If fully loaded rates are proposed, the offeror shall identify the base rate and build up.
- *Escalation*. Identify the escalation rate, how the rate is applied, and provide justification for the rate used.

3.7.6.1.3. Indirect Costs.
Indicate how the offeror has computed and applied offeror's indirect costs (e.g., overhead, G&A, material burden). Indicate the rates used and provide an appropriate explanation.

3.7.6.1.4. Other Direct Costs.
Identify all other costs directly attributable to the effort and not included in other sections (e.g., special tooling, travel, computer and consultant services, preservation, packaging and packing, spoilage and rework) and provide the basis for pricing.

- *Travel.* The basis for travel estimates will include trip purpose, departure site and destination, number of persons traveling, number of days, ground transportation requirements, and detailed costs for airfare, hotel, rental cars, and per diem allowances per Federal Travel Regulations (FTR).
- *Materials.* Submit a detailed Bill of Materials identifying each discrete material component. Backup documentation must be submitted to explain the basis of estimate for at least 80 percent of the total material cost proposed. Backup documentation may include actual production costs, catalog listings, supplier quotes, actual invoices, or other documentation from a third-party source which verifies the proposed price.

- *Consultants.* If any consultants are to be used, the offeror shall submit consultant quotes for hourly rates, estimated number of hours required, and justification.
- *Subcontractors.* If any subcontractors are to be used, the offeror shall submit complete subcontractor quotes or proposals as part of the proposal. Subcontractor proposals will be evaluated along with the prime's proposal, and they are expected to contain the same level of detail as a prime proposal. Subcontractors providing commercial items may submit a commercial quote instead of a detailed proposal.

  [NOTE: In order to protect proprietary data, subcontractors may submit their detailed cost proposals directly to the Contracting Officer instead of submitting to the prime contractor. If this occurs, the prime is responsible for ensuring subcontractor's submission is timely and is completed in accordance with these instructions.]

3.7.6.1.5. Government Furnished or Contractor Acquired Equipment.
Identify the external property or materials required to perform the task in the summary. Separate items to be acquired with contract funds and those to be furnished by the Government. Reasonably provide the description or title and estimated unit and total costs of each item (i.e., manufacturer, catalog price, or previous purchase price). When such information on individual items is not available, the items should be grouped by class and estimated values indicated. In addition, the offeror shall include a statement of the extent to which the offeror is willing to acquire the items.

[NOTE: The FAR generally prohibits providing an industrial contractor with facilities (including plant equipment and real property) with a unit acquisition cost of less than $10,000.]

3.7.6.1.6. Profit or Fee.
Include the profit or fee proposed for this effort. State if no profit or fee is proposed. Include a discussion, in the summary, of risk, technical difficulty, need for management/oversight, exceptional circumstances, etc.

3.7.6.1.7. Competitive Methods.
For those acquisitions (e.g., subcontract, purchase orders, material orders) over $250,000 priced on a competitive basis, also provide data showing degree of competition and the basis for establishing the source and reasonableness of price. For inter-organizational transfers priced at other than cost of the comparable competitive commercial work of the division, subsidiary, or affiliate of the contractor, explain the pricing method (See FAR 31.205-26(e)).

3.7.6.1.8. Established Catalog or Market Prices/Prices Set by Law or Regulation.

When an exemption from the requirement to submit cost or pricing data is claimed, whether the item was produced by others or by the offeror, provide justification for the exemption.

3.7.6.1.9. Royalties.
If more than $250, provide the following information on a separate page for each separate royalty or license fee:

- Name and Address of Licensor.
- Date of the License Agreement.
  [NOTE: A copy of the current license agreement and identification of applicable claims of specific patents shall be provided upon request by the contracting officer. See FAR 27.204 and FAR 31.205.37.]
- Patent numbers, patent application serial numbers, or other basis on which the royalty is payable.
- Brief description (including any part or model numbers of each contract item or component on which the royalty is payable).
- Percentage or dollar rate of royalty per unit.
- Unit price of contract item.
- Number of units.
- Total dollar amount of royalties.

3.7.6.2. Facilities Capital Cost of Money.
When the offeror elects to claim facilities capital cost of money as an allowable cost, the offeror must submit Form CASB-CMF and show the calculation of the proposed amount. See FAR 31.205-10.

3.7.6.3. Other Funding Sources.
The proposal shall provide the names of other federal, state, or local agencies, or other parties receiving the proposal and/or funding or potentially funding the proposed effort. State if no other funding sources or parties are involved.

3.7.6.4. Additional Information/Documents.
Additional information/documents to be included in the Cost Narrative:

- *Business/Cost Checklist*. The offeror shall complete and include a copy of the Business/Cost Checklist found at the BIDS website under Resources. Information and documents required in the Business/Cost Checklist shall be included in this proposal.
- *Terms & Conditions*. The offeror shall identify any anticipated/proposed contract terms and conditions in the proposal summary.
- *Proposal Validity*. The proposal shall remain valid for a period of no less than 180 days from submission.
- *Forward Pricing Rate Agreement*. If the offeror has an applicable rate agreement with DCAA (or another Federal Agency, e.g., HHS), please include a copy of the agreement and provide a point of contact to your

cognizant DCAA office. If the offeror has not previously been audited by DCAA, the procuring office may request an audit to verify the proposal labor direct and indirect rates. This applies to both prime contractors and subcontractors.

- *ACH Form*. The offeror will submit a completed ACH Form. (Found on BIDS under Resources).
- *VETS-4212*. The offeror will submit the most recent VETS-4212 filing confirmation.
- *Subcontracting Plan*. If the offeror is a large business and work will be performed in the United States, a Small Business Subcontracting Plan shall be submitted if the contract is expected to exceed $750,000.
- *Past Performance*. The offeror shall provide information on previous Federal Government prime or subcontracts featuring endeavors relevant (i.e., within the past three years and of similar size and complexity) to the specific requirement.

3.7.7. Phase 3 Notifications to Offerors.
Notification of acceptance or rejection of a Phase 3 submission will be sent via email to the offeror's principal contact as entered in the BIDS registration. Acceptance of a Full Proposal does not guarantee a contract will be awarded. If the Government does not accept the Phase 3 proposal, the offeror may request a formal pre-award debriefing.

3.7.8. Phase 3 Protests.
Offerors are encouraged to see resolution within the agency before filing a protest. Offerors who choose to submit any protest, must do so directly to the IWTSD Contracting Officer. All such protests will be processed under procedures that depend on whether the protest is directed to the agency, or to the Government Accountability Office (GAO) or to the Court of Federal Claims. Should the offeror choose to submit a protest, the Offeror must clearly label whether such protest is to the agency, GAO or the Court of Federal Claims. The Government will deem receipt of the protest by the Contracting Officer as constituting receipt or purposes of determining timeliness. Addresses for receipt confirmation can be requested via the BIDS Help function.

3.7.9. Phase 3 Status and Inquiries.
Phase 3 is complete when the Government concludes technical evaluations of all submissions and awards any contracts considered under this BAA. Inquiries by phone concerning the status of Full Proposals will not be accepted. After log in to the BIDS website, submitters are able to check the status of any submission under **Previously Uploaded Proposals.**

3.8. Clarification Requests.
Should the offeror be asked to submit clarifications to a Phase 2 White Paper or a Phase 3 Full Proposal, the BIDS email from the Contracting Officer will contain instructions on the specific request and associated requirements. BIDS will use CL (Clarification) instead of WP (White Paper), or FP (Full Proposal) as the Document Identifier designation (e.g., CL CBRNE-1112-ABCORP–xxxx-CL; where xxxx-CL is the VIT entered by the submitter). The request will

contain the due date and time and can be less than the standard 30-day response time depending on the nature of the request.

3.9. Instructions for Offeror "No-bid" and Submission Withdrawal.

From time to time, an offeror decides not to submit a subsequent Phase 2 or Phase 3 submission. If this is the case, the offeror shall indicate in BIDS that they are not providing the subsequent submission. The offeror shall follow the steps identified in BIDS to upload a submission and attach a document to indicate the withdrawal of the previous submission(s) and the intent to not participate in further submissions. If possible, the Document Identifier should reflect the submission status (e.g., CBRNE-1112-ABCORP–xxxx-WD or xxxx-NoBid). To withdraw a submission after the due date and time, notify the contracting officer at BIDSHelp@iwtsd.gov.

4. PROPOSAL EVALUATION.

This section describes the criteria that will be used to evaluate each submission. The phase of the submission will determine the extent that each criterion applies based on the information requirements described in Section 3. Criteria are not weighted, and submissions are not ranked.

4.1. Evaluation Criteria.

The criteria used to evaluate and select proposals for projects are described as follows. Each proposal will be evaluated on its own merit and relevance to the program requirements rather than against other proposals in the same general research area.

4.1.1. Basic Requirement.

The proposed solution must meet the letter and intent of the stated requirement; all elements within the proposal must exhibit a comprehensive understanding of the problem and the requirements of intended end users. The proposed solution must meet multiple user (U.S. Government or commercial) needs and be fully compliant with all elements of the solicitation including format, content, and structure as well as all BAA instructions.

4.1.2. Technical Performance.

The proposed technical approach must be feasible, achievable, complete, and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks. Task descriptions and associated technical elements are to be complete and in a logical sequence. All proposed deliverables must clearly define a final product that meets the requirement and can be expected as a result of the award. The proposal must identify and clearly define technical risks and planned mitigation efforts. Those risks and the associated mitigation must be defined, feasible, and reasonable. The roles of the prime and other participants required must be clearly distinguished and pre-coordination with all participants (including Government facilities) fully documented.

The requirement for and the anticipated use or integration of Government Furnished Equipment/Information/Property (GFE/GFI/GFP) including all equipment, facilities, and information, must be fully described including dates when such GFE/GFI/GFP will be

required. Intellectual property ownership and the planned transition to production must be adequately addressed, including a support concept for the product described. Similar efforts completed by the offeror in this area must be fully described including identification of other Government sponsors.

4.1.3. Cost.
The proposed costs must be both reasonable for the work proposed and achievable. The proposal must document all anticipated costs including those of associate, participating organizations. The proposal must demonstrate that the offeror has fully analyzed budget requirements and addressed resulting cost risks. The proposal must indicate all cost-sharing and leveraging opportunities explored and identified and the intellectual property expectations associated with that cost-sharing. Other sponsors who have funded or are funding this offeror for the same or similar efforts must be identified by agency, program manager name, phone number and email address.

4.1.4. Schedule.
The proposed schedule must be reasonable, achievable, and complete. The proposal must indicate that the offeror has fully analyzed the project's critical path and has addressed the resulting schedule risks.

4.1.5. Contractor Past Performance.
Past performance is a confidence assessment based upon the probability of successfully performing the requirement. The offeror's past performance in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance requirements within the proposed budget and schedule. The proposed project team must have demonstrated expertise to manage the cost, schedule, and technical aspects of the project.

[NOTE: Past performance information may be used in the technical evaluation if the vendor has relevant past performance with the Government. However, having no relevant past performance with the Government will not be held against a vendor.]

5. TECHNOLOGY DEVELOPMENT REQUIREMENTS AND OBJECTIVES.

This section provides the requirement descriptions and overall technical objectives. The intent of this BAA is to identify technologies and approaches that provide solutions that enhance the capabilities for DoD to conduct Irregular Warfare (which includes missions of unconventional warfare (UW), stabilization, foreign internal defense (FID), counterterrorism (CT), and counterinsurgency (COIN)) against all adversaries and to deliver those capabilities to DoD components and interagency partners through rapid research and development, advanced studies, and technical innovation.

5.1. Advanced Analytics (AA)

R4720 Real Social Network Mapping
Currently, DoD users have access to some training and tools for conducting open-source research (OSR) using publicly available information (PAI). Existing tools do not function concordantly and cannot assemble mutually exclusive attributes into a unified profile. Analysts must manually sequence and layer multiple independent processes and tools, iteratively compare results, and slowly generate resolution of a single subject at a time.

Develop, test, and evaluate a cloud-based software that automates search, extraction, organization, visualization, and mapping functions in order to extract key insights into real-world social networks from PAI and open-source data. The platform must be able to ingest both structured and unstructured commercial data sets (both selected proprietary and non-proprietary data sets), and PAI in all common formats, including data from social listening and web-scraping software (e.g., PULSE). The platform must conduct search, retrieval, collection, integration, visualization and analysis of data from across multiple such sources, and must allow users to reference results back to the original source. The platform must either directly enable or indirectly facilitate translation across languages (prioritized per the most recent National Defense Strategy).

The platform must enable users to develop individual and network profiles (e.g., social, political, and business networks). The platform must support analysis for networks of varying sizes (from very small up to 10^6-sized networks), types (e.g., social, communication, semantic, task), and dimensions (e.g., multimode, multiplex, and/or multi-level meta-networks) that may be dynamic (e.g., Gephi and ORA) and associated with specific geographic areas (e.g., Live Universal Awareness Map). The platform must enable users to generate network graphs which can be evaluated using graphical, statistical and visualization metrics, algorithms, and techniques. The platform must enable users to identify key individuals, groups, topics, and hot spots of activity; identify communities, subgroups, and interest patterns; and examine group membership changes. The platform must return results as interconnected visual entities, enabling users to execute different types of filters within results. The platform must support export of network graphs and fusion with DoD, interagency, and open-source data.

Deliverables Base Contract:
- Deliver a production prototype software for operational test and evaluation (OT&E)

Contract Options:
- Support OT&E with selected DoD end users (e.g., 95th Civil Affairs Brigade), receiving user feedback, enhancing under-performing features, resolving software stability issues, and deploying software patches.
- Deploy production prototype software with Authority to Operate on DoD end user selected enclave (e.g., Government network, cloud, or enterprise server).

A Firm Fixed Price proposal with a base contract period of performance of less than twelve (12) months is preferred.

R4721 Edge 3D Terrain Mapping
Currently, DoD users do not have the ability to generate and visualize high-quality

three-dimensional (3D) geospatial intelligence (GEOINT) data from commercial-off-the-shelf (COTS) devices or government-off-the-shelf (GOTS) devices in hostile or denied environments. These tools are needed to enhance situational awareness and understand the area of operations. Systems and processes currently cannot collect and process this information at the edge or near real time. Furthermore, information gathered from the tactical edge is not integrated into a mixed reality mission command system that facilitates a shared common operating picture so that multiple personnel can collaborate and communicate from over the horizon. By enhancing mission planning and briefing activities and providing over the horizon situational awareness, rapid 3D imaging at the edge, coupled with augmented reality, advances the capability to conduct irregular warfare.

Develop an edge analytics application and Tactical Assault Kit (TAK) plugin to support generating objective 3D maps from actively or passively collected small unmanned aerial systems (sUAS)-based full motion video, infrared (IR), and associated metadata. The 3D mapping application must leverage a TAK user interface (UI) and must be sharable/exportable between devices so that 3D maps can be viewed by other tactical units in the field, as well as Special Operations Task Force (SOTF)/Command/HQ. The application must generate a 3D map that consists of a mesh and texture, as well as a .prj file (a standard geospatial reference item), within mission expedient time frames in order to provide tactical-level users mission relevant GEOINT and analysis in support of mission planning and command and control (C2). The application must include functionality that allows the locations of mission objectives, landing-zone, CASEVAC routes, and disposition of friendly/allied/partner forces to be displayed on the 3D mesh in TAK. The mobile application must be capable of running analysis in a disconnected environment (without access to the cloud), but should be capable of leveraging connectivity to the cloud to render a superior 3D mesh in a shorter time frame when operating in a permissive environment. When connected to the cloud, the 3D mapping application must include a Mission Support Site with an administrator's workstation that can inject/overlay additional information (e.g., location of friendly forces, last known enemy position, etc.) in the 3D map's mesh layers. A Phase 1 solution must leverage the TAK UI; however, in Phase 2 the mobile application must be capable of displaying toggled views of 3D maps, mesh layers, locations, objectives, and objects in external commercial-off-the-shelf (COTS) displays, such as a heads-up display (HUD) or head-mounted mixed/enhanced/augmented reality enhanced user device (EUD). The Phase 2 solution must both allow leadership to better visualize, understand, plan, and track the execution of the mission, and enable tactical mission execution for ground-level operators. The USG will not provide any GFI/GFE.

Deliverables Base Contract:

- Deliver production prototype software deployed on three (3) selected mobile devices with TAK UI for operational test and evaluation (OT&E)

Contract Options:

- Procure and deliver ten (10) additional TAK-based mobile device UIs and load production software on them.
- Support OT&E with selected DoD end users (e.g., 7th Special Forces Group), receive user feedback, enhance under-performing features, resolve software stability issues, and deploy software patches.

- Deploy production prototype software with Authority to Operate on DoD end user selected enclave (e.g., Government network, cloud, or enterprise server) with access to Mission Support Site (administrators' online workstation).

A Firm Fixed Price proposal with a base contract period of performance of less than twelve (12) months is preferred.

5.2. Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE)

R4747 Canine Olfaction Monitoring System
Military Working Dogs (MWDs) are the most sensitive and robust option for detecting mission-critical materials such as explosives or narcotics. Unfortunately for MWDs, communicating their status and findings to human handlers relies on the canine using difficult to interpret and often unreliable behavioral cues. If the human handler misses or misinterprets a cue from their canine, they may not realize that their MWD is in distress (e.g., overworked or heat stress) or may overlook a canine alerting to a critical target material.

The Canine Olfaction Monitoring System shall provide sensors that monitors changes in canine behavior. This analysis shall be displayed as an easy-to-interpret output/alert for the human handler on a wearable signal reader device. The outputs provided to the handler shall be able to indicate:

- Detection/Recognition of a target the MWD is trained to identify;
- Physical distress, such as overheating or work overload;
- Changes in active task engagement (e.g., overstimulation or boredom).

Sensors on the canine shall not be invasive, meaning they shall be worn and not rely on injection or ingestion. The sensors shall be interoperable with standard MWD equipment such as collars and vests. Solutions can assume that an MWD is always collar-equipped, and a solution cannot involve the canine wearing an additional separate collar. If the sensor design is integrated into a collar, the design should maintain the same functionality of a standard issue collar used by an MWD. Any sensors designed to be worn on a vest shall also be able to be worn by a canine that is not wearing a vest. While only one sensor is ideal (objective) the solution can leverage multiple sensors to be worn on the canine; however, the total weight of the solution (including sensor[s] and any straps and clips) shall be less than two (2) pounds (threshold). Sensors shall not restrict any canine movements, and shall be able to be worn by larger working dog breeds (i.e., Belgian Malinois, German and Dutch Shepherds, and Labrador Retrievers (threshold)). Sensors that also function with smaller working dogs, such as beagles and terriers, are desired (objective). Sensors shall function for at least four hours, in light or dark conditions, without having to recharge or replace the power source. If sensors rely on batteries, they shall only use common commercially available batteries. Sensors shall be robust for operational use, including meeting Ingress Protection Codes for dust and water immersion (i.e., IP-67). Sensors shall function in environments with temperatures ranging from 0°C – 60°C (threshold) with ideal solutions working in temperatures as low as -17°C (objective).
Each time sensors are placed on the canine, it shall take no longer than five (5) minutes to calibrate to the canine's physiological signals. Data shall be able to be encrypted and transmitted

from the sensors on the canine to the signal reader device worn by the handler in real time. Wireless connection shall not rely on line of sight, and shall be able to maintain the connection between the sensors and reader for at least 75 meters (threshold) with ideal solutions having a range of over 100 meters (objective). Potential vendors should consider when proposing wireless connection solutions between the sensors and signal reader that MWDs often work in areas containing live explosives and near improvised explosive devices (IEDs) that may be controlled by a radio link.

The handler shall be able to read the easy-to-interpret output from the canine sensors on a wearable reader device. The reader shall be able to be worn and read on a single arm (e.g., wrist or forearm) of the handler, and shall weigh less than 1.5 pounds. The reader device shall function for at least four hours without changing batteries or recharging, meet IP-67, and work within the same temperature range as the canine sensors. Outputs shall be provided as a visual, tactile (e.g., vibration), and audio alert, with the handler able to toggle between these options based on preference and operational needs. Data, specifically alerts, from the reader shall be exportable for inclusion into databases or other programs.

It is intended that during the project, the Canine Olfaction Monitoring Device shall be evaluated with actual MWDs at a Government facility as part of an end user trial coordinated by the Government. The Government is able to facilitate additional access to Government MWDs and MWD subject matter expert (SME) support prior to this event. During sensor development, it is expected that the contractor independently source dogs whenever possible. Should additional access to MWDs be necessary, the contractor shall indicate this need in their submission and provide an estimated number of hours needed for tasks such as data collection, algorithm testing, etc. Any work performed with dogs shall require approval from the Government and an approved Institutional Animal Care and Use Committee (IACUC).

Deliverables Base Contract:

- Deliver twelve (12) prototypes for operational test and evaluation (OT&E)

A Firm Fixed Price proposal with a base contract period of performance of less than twenty-four (24) months is preferred.

R4748 Standoff Chemical Agent Detector

Current chemical detectors are not capable of stand-off location and identification of trace amounts of chemicals in both liquid and solid states. This operational gap results in warfighters' reduced situational awareness when operating in environments containing unknown liquid and solid substances. This requirement is seeking to develop a detector capable of locating and identifying trace (non-visible) amounts of solid and liquid chemical targets on varying surfaces and under various lighting conditions. Successful development of such a detector would allow for stand-off interrogation of various surfaces and subsequent location and identification of liquid and solid target substances should they be present.

The detector shall be capable of locating and identifying liquid and solid chemical targets through non-contact, stand-off detection (≥ 1 meter) and identification. Detector performance

shall not degrade at shorter distances from target. The detector's time to detection shall be no more than five (5) minutes (threshold), and less than sixty (60) seconds is desired (objective). The detector shall locate and scan an area of at least 12 in^2 and identify any present target substances within this period.

The detector shall be capable of locating and identifying chemical targets down to 1 $\mu g/cm^2$ amounts (threshold), with lower amounts of detection desired (objective). The detector shall be capable of locating, identifying, and informing operators of the presence of chemical warfare agents, non-traditional chemical agents, opioids, toxic industrial chemicals, and explosives. The detector shall have at least an 80% probability of locating and identifying a chemical target's class with a low false alarm rate. The detector shall have an easily updated chemical target library and its detection capability shall not be limited to the aforementioned targets. It is desired that the detector displays a visual image of the area scanned with an overlay of where the target substance was located (objective). It is further desirable that the detector display a visual image of the area scanned with an overlaid "heatmap" which displays the concentrations of the target substance (objective).

The detector shall be less than 732 in^2 and shall weigh no more than 35 pounds (threshold), but less than 25 pounds is desired (objective). The detector shall require no manual calibration and be capable of operation by personnel in both MOPP Level 4[1] and Level A[2] personal protective equipment. Chemical targets to identify are in the liquid and solid state and the detector should possess the ability to identify liquids in solvents and as a thin film on a surface (objective).

Deliverables Base Contract:

- Deliver two (2) prototypes for operational test and evaluation (OT&E)

A Firm Fixed Price proposal with a base contract period of performance of less than twenty-four (24) months is preferred.

R4749 Container Scanner
Develop a non-invasive system for the classification (threshold) and identification (objective) of liquid, solid, and powder threat agents including at least 3 of the following classes of materials (threshold) and more of these classes is preferred (objective): chemical warfare agents (CWAs), toxic industrial chemicals (TICs), acids, pharmaceutical based agents (PBAs), explosive materials, explosive precursors, and non-traditional agents (NTAs) in closed containers.

Threshold refers to the minimum requirements of the system and Objective refers to specifications that are desired. The system shall detect the presence of the target materials listed in the previous paragraph in containers 30 mL to 750 mL (threshold) in size, and identification of threat agents in both larger and smaller containers are desired (objective). The system shall be able to detect target substances inside clear, translucent, and truly opaque containers, such as ceramics (threshold), and metal containers are desired (objective). Metal containers include aerosol cans and water bottles. It is also desired that the system detect target substances inside

[1] https://nuke.fas.org/guide/usa/doctrine/usaf/32401200.pdf
[2] https://remm.hhs.gov/ppe_classification.htm

asymmetric or non-rigid containers such as bags, pouches, perfume bottles, and hand sanitizer bottles (objective). The thickness of the container that the system should be able to detect through is 2 mm (threshold) and 10 mm (objective).

The system shall be able to detect threat mixtures within the containers down to 15% threat material by weight (threshold), and 1% threat material by weight is desired (objective). The system shall have an identification/classification rate of at least 95% and a false alarm rate of 4% or less (threshold). A false alarm rate of 1% is desired (objective).

The system shall be man portable and weigh less than 35 pounds. A desktop system is acceptable (threshold) and a handheld portable system is desired (objective). The system shall require at most 60 seconds to complete a scan of a container and produce a detection result (threshold), with a goal of a result within 10 seconds (objective). The system shall require no more than 30 minutes to set up and start up before the system is ready to scan the first container. The system shall be able to return a result requiring minimal training to interpret (e.g., red/green), while allowing for more detailed analysis by displaying the collected data.

Deliverables Base Contract:

- Deliver two (2) prototypes for operational test and evaluation (OT&E).

A Firm Fixed Price proposal with a base contract period of performance of less than twenty-four (24) months is preferred.

5.3. Expeditionary Force Protection (EFP)

R4728 Electric Tactical Ground Mobility Platform (e-TGMP)
Specific DoD units are tasked to possess multi-domain capabilities to obtain access to and defeat enemy hard targets. This mission set involves conducting Direct Action operations in a sub-terrain (SbT) environment to conduct Hard Target Defeat. Operating in this environment requires specialized equipment one of which includes a unique mode of transportation. Crisis Threat Advisory Companies (CTAC) require a solution that will provide commanders a mobility competitive advantage over near peer adversaries in a Multi-Domain Operational Environment through reduction in acoustic and thermal signature, CO_2 gas issues, silent mobility through an underground facility, increased dash speed, extended range, increased reliability, and reduction in CLASS III requirements.

This requirement seeks to modify the current GMV 1.1 Flyer vehicle's power train, or a like vehicle within the system specifications of this requirement, which exists as an Army Program of Record (POR), to an electrification vehicle achieving an operational range under load of 250 miles threshold (T), 350 miles objective (O). The SbT e-TGMP shall provide a non-traditional powertrain that provides superior energy efficiency; enhanced signature management (SIGMAN) through the reduction of acoustic and thermal signature. The SbT e-TGMP must be able to be transported via fixed or rotary wing assets.
The SbT e-TGMP will allow Army Special Operations Forces (ARSOF) Units of Action the ability to rapidly maneuver from the point of infiltration, to the target entrance without having to

transition to multiple smaller battery-operated mobility platforms. The replacement of the combustible engine will also result in the elimination of any lethal carbon monoxide issues. Lastly, the e-TGMP will reduce the burden of Class III supply and improve the vehicle's reliability through a reduction of components.

System Performance Specifications:

- **Priority 1 – Electrification:** The SbT e-TGMP shall provide a non-traditional powertrain that provides superior energy efficiency to reduce the burden of Class III supply / resupply and improves reliability through a reduction of components.

  a1. The SbT e-TGMP shall provide Silent Mobility via electric drive at Gross Vehicle Weight (GVW) while operating from the point of infiltration to the SbT objective with the heating, ventilation, and air conditioning (HVAC) and communications system running, capable of achieving an operational range under load of 250 miles (T), 350 miles (O).

  a2. Power Exportability. The SbT e-TGMP shall provide modular power exportability that; in addition to running steady state systems (A/C, etc.) will be capable of supporting the following various capabilities:

  1) Mission Command Package- C5ISR (ARSOF)
     - 6x Cell Phones
     - 2x Dell Laptops
     - 1x Tablet (Android Team Awareness Kit (ATAK))
     - Satellite Detection Node – Light
     - 2x 120V outlets
  2) Subterranean Package
     - Chemical, Biological, Radiological, Nuclear, Explosive (CBRNE) Air Quality Sensors
     - Heavy Breaching Equipment
     - Jackhammer
     - Broco Strike Plates
     - Heavy Cutting Torches
  3) Counter Unmanned Ariel System (CUAS)/ Counter-Unmanned Ground Vehicle (CUGV) Package
  4) Crew-served Remotely Operated Weapon System (CROWS) Package
  5) 1x Blood Cooler/Storage Solution

  a3. On the Move Rapid Re-charge (OMRR). The e-TGMP shall have a rapid Re-charge capability that shall provide OMRR during extended operations under load while moving or in a static position. This OMRR shall add an electric charge extending the vehicles range under load by 150 miles (T) 250 miles (O) in 15 minutes or less (T=O).

  a4. Current top speed of vehicle shall not be adversely impacted using the current platform (T=O).

- **Priority 2 – Range:** The SbT e-TGMP shall possess the necessary onboard energy to support missions that require a movement of up to 250 miles. The SbT-e-TGMP shall be capable to travel 6 hours of silent drive at GVW coupled with an onboard/organic recharging.
- **Priority 3 – Capacity**: The SbT e-TGMP shall provide seating for Six (6) Soldiers, their equipment, and provisions to support ARSOF HTD SbT missions.

- **Priority 4 – Payload:** The SbT e-TGMP shall support 4,000 pounds of payload capacity (T). Payload includes six (6) crew members, six rucksacks, and the additional weight may consist of additional Command, Control, Communications, and Computers (C5ISR) equipment, rations, water, primary weapon and ammo, secondary weapons and ammo with mounts, and additional mission equipment needed for HTD SbT operations.
- **Priority 5** – **Survivability:** The SbT e-TGMP must be capable of operating with battery performance degradation due to damage to the battery, its compartment and/or housing.
- **Priority 6 – C5ISR:** The SbT e-TGMP shall possess basic mounting provisions, hardware, and cabling to support integration of ARSOF C5ISR systems. The SbT e-TGMP electromagnetic interference "noise floor" shall be managed and controlled to not interfere with the Receive/Transmit function of the radio systems.
- **Priority 7 – Mobility:** The SbT e-TGMP shall be able to operate in "power conservation/normal operation" and "full power" modes to maximize efficiency during steady state operations and draw upon the vehicle's full performance during contingency situations.
- **Priority 8 – Transportability**: The SbT e-TGMP shall be worldwide deployable by standard inter- and intra-theater sea, waterway, internal / external CH47, Internal C130, rail, and road modes of transportation. The SbT e-TGMP shall meet air drop requirements in accordance with MIL Standard 1791 (C) – Designing for internal aerial delivery in fixed wing aircraft (23-OCT-2017) - associated with Low Velocity Air Drop (LVAD), Dual Row Airdrop System (DRAS) and Joint Precision Airdrop System (JPADS).

Ancillary Equipment, Training, and Services:

- Quick Reference Guide (QRG), Graphical Training Aid (GTA) (T).
- Operating and Operator Level maintenance manual to include system specifications and part lists (T).
- Training Sustainment Video (T).
- System Maintenance Tools (T).

Government Furnished Equipment (GFE):

United States Army Special Operations Command (USASOC) Family of Special Operations Vehicles (FSOV) will provide two (2) EA GMV 1.1 Flyer or a like vehicle that exists as an Army Program of Record (POR) for this effort.

Deliverables Base Contract:

- Deliver two (2) e-TGMP prototypes for operational test and evaluation (OT&E)

Contract Options:

- Deliver up to eighteen (18) e-TGMP prototypes for operational test and evaluation.
- Develop and deliver a modification to the existing cargo area that allows the Operator to rapidly convert the cargo area into a flatbed cargo configuration with a capacity capable of carrying a 2500 lbs (T), 3000 lbs (O) payload.

- Develop and deliver the ability to control e-TGMP through ATAK using current suite of wavelength communications MANET/TMS/ MN MANET systems.

Each option must be quoted (cost and period of performance) separately.

A Firm Fixed Price proposal with a base contract period of performance of less than twenty-four (24) months is preferred.

5.4. Explosive Ordnance Disposal and Explosive Operations (EOD-EXO)

R4717 Improved Blast Sensor/Gauge Set

Develop a blast gauge/sensor that measures, records, stores, and provides real time feedback for atmospheric blast overpressure (in PSI), acoustic pressure (dB), and exposure event duration (ms) resulting from explosive blast overpressure. The gauge shall have a feature enabling a user to program an event PSI threshold that, when met and exceeded, will provide immediate feedback to the user to indicate whether safe distance calculations were accurate. The gauge shall be wearable, but also capable of mounting in a static position for testing without the need for an operator in the blast area. The gauges shall not have reduced measurement accuracy caused by blast event angle of incident to sensor; critical as body mounted gauges will not always be square with a blast. The gauge shall measure blast overpressure and acoustic data from all angles relative to the wearer or static emplacement. The gauge shall be unit programmable for assignment to an individual for medical records update or to a static site for experimentation and training development; the programming assignment shall generate a "role name" to ensure data is attributable in both time and space. The gauges shall be capable of recording and distinguishing individual and repeated blast pressure events. The gauge shall be able to distinguish and record initial blast pressure event and reflected pressure events. The gauge shall not exclude or ignore weapons fire data collection, as these also produce negative trauma effects resulting from overpressure as recorded in recent scientific study. The gauge shall not use geolocation functions. The gauge shall have a "passive only setting" that the user can activate which will turn off all emissions (as applicable – EMR, FM, visible, audible) for use in tactical environments. The gauges capability to accurately measure blast overpressure and acoustics in "passive" mode shall not be degraded by environmental or tactical factors (ECMs, radios, precipitation, etc.).

Additional Requirements:

- Overpressure sensors shall have detection range of .2 PSI to 80 PSI (Objective) for lung damage (50 PSI minimum threshold for lung damage)
- Acoustic sensor shall have detection range of 80 dB to 200 dB (Objective). It shall be acceptable for the developer to capture the upper limits of this detection range using other sensors (i.e., overpressure sensors) based on size, weight, and power (SWaP) considerations, but data collection shall enable the user to later distinguish acoustic overpressure events from blast induced events.
- Shall have an ingress protection rating of IP67 and drop shockproof from 15 ft.
- Shall include all necessary mounting hardware for both wearable and static applications.

- Data shall be exportable as an Excel spreadsheet and be sortable and filterable by sensor data points (for example: Blast overpressure, acoustic, event duration, and time of event).
- Shall have a weight no greater than 16 ounces.
- Shall process both wired and wireless data collection (both real time and post event).
- Shall be low profile for Soldier wear and will not inhibit the Soldier's ability to wear, carry, and utilize individual and military equipment (weapons, radios, individual load carrying equipment, Personal Protection Equipment (PPE), operate vehicles, etc).
- Shall be powered by rechargeable batteries.
- Shall have a minimum runtime of 12 hours on a single charge.
- Shall have record blast and acoustic data for the duration of its battery life (12 hours).
- Charging shall be compatible with standard 110-240V AC sources, 12V DC outlets, and interface with the gauge via standard Micro-B USB port.

Deliverables:

Base Contract: Deliver 15 gauges for operational test and evaluation (OT&E) in static and worn applications.

Contract Options:

1. Deliver 15 additional gauges for operational test and evaluation
2. Deliver one-year of technical support and software updates (as necessary)
3. Update the file export format and export method for compatibility with Defense Health Agency (DHA) and Army Public Health Center (APHC) approved medical records systems when this is established by the respective entities

A Firm Fixed Price proposal and eighteen (18) month base contract period of performance is preferred.

R4724 Protective Works Calculator/Sandbag Fragment Mitigation Technique – Surface Detonation Calculator

Develop software application that will calculate required materials, equipment, dimensions, and safety distances required to employ various engineering control techniques for the mitigation of blast, fragmentation, and ground shock during deliberate disposal operations. Techniques to consider include proper orientation of explosive ordnance to minimize the hazard of rogue fragments to personnel or property, open barricade utilizing sandbags or other suitable materials, closed barricade utilizing sandbags or other suitable materials, open pit disposal, earthen tamping, water tamping, trenching for the protection of subsurface infrastructure, and buttressing for the protection of underground facilities. The protective works calculator shall prompt operators to provide specific details of the explosive hazard to include total net explosive weight of the ordnance, quantities of ordnance, ground/soil composition of the selected disposal site, and the distance, depth and dimensions of any nearby infrastructure and/or facilities. The protective works calculator shall provide a detailed list of materials and dimensions for the construction of

the mitigation technique selected by the operator. The protective works calculator must operate on both Android and iOS operating systems.

Additional Requirements:

For Open Barricade Technique

- Provide dimensions of barricade(s).
- Provide volume of sand or dirt.
- Provide number of sandbags.
- Provide optimal distance of explosive hazard to barricade(s).
- Provide optimal orientation of explosive hazard to personnel and property during detonation.
- Provide minimal safe distance of personnel and property to point of detonation.

For Closed Barricade Technique

- Provide dimensions of enclosure.
- Provide distance of explosive hazard to interior surface of enclosure.
- Provide volume of sand or dirt required to construct the enclosure.
- Provide the number of sandbags required to construct the enclosure.
- Provide a list of additional materials required to construct the barricade such as wooden scaffolding to support the interior roof of the enclosure.

For Earthen Tamping Technique

- Provide dimensions of earthen mound.
- Provide volume of soil required for construction of mound.
- Provide a list of acceptable soil compositions for construction of mound.

For Water Tamping Technique

- Provide a list of materials suitable for construction of water tamp (i.e., inflatable wading pool, plastic carboys, agricultural water tank, etc.).
- Provide instructions for proper placement of water containers.
- Provide dimensions of water tamp to include minimal depth of water to surround the point of detonation explosive hazard from inner surface of water tamp.

For Trenching Technique

- Provide dimensions of required trench to mitigate ground shock.
- Provide optimal location of trench relative to point of detonation and location of buried infrastructure.

For Buttressing Technique

- Provide dimensions of buttress required to protect interior walls of underground facilities.

- Provide list of materials for construction of buttress(es) (i.e., sandbag, timbers, etc.).
- Provide volume of sand or dirt required for construction of buttress(es).

Deliverables:

Base Contract:

Deliver a functioning application capable of being downloaded and installed by operational end users. Also deliver two (2) complete copies of calculator on suitable portable digital media (i.e., portable hard drive).

Contract Options:

1. Provide twelve (12) months of system updates, and administrative support and system maintenance of the application following final delivery of the base contract.

A Firm Fixed Price proposal and twelve (12) month base contract period of performance is preferred.

R4725 Project SNAPSHOT

Develop, organize and label a collection of digital 2-D images and 3-D scans of inert or inerted military explosive ordnance, improvised explosive devices (IED), and IED-related components. The contractor will be required to travel to several locations where large collections of these items are maintained, photograph and scan each item in the collection, and record specific data for each item to include: ordnance type, specific ordnance nomenclature, the country of origin, and the major dimensions of each item (i.e., length, width/diameter, and height). Collections of inert or inerted ordnance and IEDs, whether maintained by the government or private individuals, may be found at several locations within the continental United States and overseas. It shall be the responsibility of the contractor, with assistance from the EOD/EXO Subgroup to facilitate access to government-owned collections, to identify and secure access to these collections for the purpose of completing this project.

Additional Requirements:

The contractor shall scan and image a minimum of 2000 individual, unique pieces of ordnance

- For fuzed ordnance, images of the ordnance with the fuze installed, plus images of the ordnance without the fuze installed, plus images of the fuze by itself, together shall be considered a single unique piece of ordnance.

The contractor shall ensure the ordnance spans a diverse range of ordnance types (i.e., grenade, landmine, projectile, etc.) with the following exceptions:

- No dispensed chaff or flares.
- No underwater ordnance (i.e., torpedoes, sea mines, etc.).
- No small arms ammunition 20 mm in size or smaller.
- No single ordnance type shall represent more than 30% of the total collection (i.e., landmines may only represent up to 30% of the total collection).

2-D Images

- Images shall be in full color (e.g., RGB, CMYK, Adobe RGB, RGB Pro).
- Images shall have a of 5MP or larger.
- Images shall be taken in a way such that all parts of the ordnance item being photographed are clear and in focus.
- Images shall be taken at a distance such that the item takes up a minimum of 90% of the frame.
- Each item shall be photographed a minimum of 3 times (i.e., top, bottom, side OR front, back, side).
- The total number of images taken must be sufficient to allow for proper identification of the ordnance item.
- An image shall be included for any ordnance markings (i.e., stamped, engraved, stenciled, etc.).
- Asymmetrical ordnance shall be photographed from the each of the 6 cardinal views (i.e., front, back, left, right, top, and bottom).
- Images shall be captured using a green light box to ensure a neutral background and optimal lighting.
- Each image shall be in a RAW format with a duplicate version in an uncompressed file format such as .tiff, .jpeg, or .bmp.
- Exif data shall be provided for all images when available.

3-D Scans

- Scans shall have a minimum resolution of .5 mm.
- Scans shall include color images registered to the scan to ensure a photorealistic 3-D model
- Scans shall be in an unstructured point cloud format.
- Digital files shall be in a .PLY compatible format with a duplicate copy in .STL or .OBJ file format.

Deliverables:

Base Contract:

Deliver two (2) complete copies of all curated 2-D and 3-D image data, organized by location, ordnance type, and specific item nomenclature, on suitable digital media (i.e., portable hard drive).

Contract Options:

1. Travel to one (1) additional location in the U.S. European Command theater of operations where a curated collection of inert or inerted explosive ordnance and IED materials are maintained, and record 2-D and 3-D image data in accordance with the scope of the base contract for an additional 1000 individual, unique pieces of ordnance. Deliver two (2) complete copies of all 2-D and 3-D image data organized by location, ordnance type, and specific item nomenclature, on suitable portable digital media (i.e., portable hard drive). It shall be the

responsibility of the contractor, with assistance from the EOD/EXO Subgroup to facilitate access to government-owned collections in allied or partner nations, to identify and secure access to the collection for the purpose of completing this project.

A Firm Fixed Price proposal and twelve (12) month base contract period of performance is preferred.

R000-EOD-EXO-FY23 Unspecified Requirement
Develop technology solutions to increase the effectiveness of EOD and explosives operators conducting a range of operations across the five irregular warfare activities. The EOD/EXO unspecified requirement has two separate focus areas.

Focus Area 1: Proposed capabilities should focus on the offensive and defensive use of explosive effects to enhance U.S. and/or partner force counter-mobility and area denial operations. For this focus area, IWTSD is interested in innovative and non-conventional tools/technology for use by U.S. and partner forces conducting access, terrain, and resource denial operations to disrupt both conventional and unconventional adversary forces.

Focus Area 2: Proposed capabilities should focus on enhancing the decision support and diagnostic capabilities of EOD/explosives operators. IWTSD is interested in innovative technologies or capabilities that will provide operators with the knowledge, skills, and abilities to identify new and emerging threats, whether through visual inspection, x-ray imaging, or other diagnostic capabilities.

Deliverables: Proposals with hardware deliverables shall include a minimum of ten (10) prototypes for operational test and evaluation (OT&E).

Base Contract: A Firm Fixed Price proposal and twelve (12) month base contract period of performance is preferred.

Unspecified requirements (R000s) are for proposing unique innovations that have not yet been identified by IWTSD. Submissions against an unspecified requirement shall be responsive to the focus areas and topics noted. In addition, proposed technologies must not be a fully-developed commercially-available product. Proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized specified requirements. Because IWTSD does not budget for unspecified requirements, awards may not be made against them.

Note: Quad charts submitted in response to a Subgroup's R000 may be shared with other IWTSD Subgroups if the submission demonstrates relevance to that Program Manager's Focus Areas.

5.5. Forensic Exploitation and Identity Operations (FEIO)

R4693 Human-Algorithm Fusion for Facial Recognition (HAF-FR)

The military, law enforcement, Homeland Security, and intelligence communities require a software tool that fuses human and machine learning capabilities to meet or exceed the facial recognition accuracy of forensic facial examiners while reducing the analysis time required for review and consensus between them. Examiners are responsible for comparing images of faces by analyzing discrete features for similarities and differences, to provide identification evidence/judgement for investigative and intelligence purposes. Current forensic laboratory best practice for 1-to-1 facial comparison examination requires two examiners to achieve agreement on the opinion reported out before a final report is released. As a quality assurance practice, this process is typically performed in series, rather than in parallel, meaning the examination time is effectively doubled. This process directly contributes to an increased number of man-hours required to perform such examinations and prolongs the reporting timeline, hindering cases/incidents that are time-sensitive (e.g., imminent threat to life scenarios).

Design, develop, and deliver a software tool that fuses analytic algorithms with the human examiner to analyze, adjudicate and report facial image examinations.

The software tool shall possess the following required attributes (threshold parameters):

1. Process images in JFIF (i.e., .jpg), Bitmap (.BMP), TIFF, and PNG formats;
2. Enable the examiner to perform manual comparison of two images, and assign a strength of opinion score using a +3 to -3 scale;
3. Accept the comparison image pair and examiner-generated confidence score into the software algorithm for independent comparison and algorithm strength of "match" scoring;
4. Prevent access/visibility of the algorithm-generated analysis until examiner's score is captured;
5. Generate a fused score based on examiner and algorithm evaluations and scoring and produce an analysis report;
6. Export images and reports in both PDF and .CSV format;
7. Produce a flag/notification when the examiner-generated and algorithm-generated scores are on different sides of the scale (i.e., a "+" answer and a "-" answer);
8. Algorithms must be tested through the NIST Face Recognition Vendor Test (FRVT) Ongoing (Face Recognition Vendor Test (FRVT) Ongoing | NIST), FRVT 1:1 program prior to delivery for a 30-45 day end user test and evaluation. Developers will need to understand the NIST FRVT 1:1 ongoing program submission and acceptance timelines for algorithm testing and address this in their technical approach and schedule. Developers will need to work directly with the NIST program for planning and coordination of any submissions. The algorithm version integrated into HAF-FR must be the same submitted to FRVT for independent performance testing. The algorithm must meet the following accuracy requirements:
    a. FOR MUGSHOT PHOTOS: False Non-Match Rate (FNMR) of 0.0032 or better at a False Match Rate (FMR) of 0.00001; and
    b. FOR WILD PHOTOS: FNMR of 0.03 or better at an FMR of 0.00001;
9. Not exceed a processing time of one minute for a given pair of images;
10. Not rely on internet connectivity;

11. Operate on a stand-alone system utilizing Windows, iOS, MacOS, or Linux platforms; and
12. Be fully functional on commercial hardware. The hardware costs to run the system/software must not exceed $10,000, with an objective goal of running on $5,000 of commodity computing resources.

Government furnished information, in the form of reference or training datasets, will not be provided. Offerors must be capable of developing and delivering the required solution from pre-existing public or internally available datasets, and must be prepared to describe the source of the data they used.

The developer shall thoroughly and comprehensively test the software. Additionally, the software shall be provided to selected end users for a 30 to 45-day testing period before final delivery. The developer shall use the end users' test data, feedback, evaluations, and results to make modifications to improve the software's performance and ensure conformance to the requirements before final delivery.

The performer will be expected to develop code with IT security in mind. To that end, the performer will be expected to document the steps they plan to take in order to manage security, code quality risks, and license compliance.

The U.S. Government shall receive intellectual property rights to the extent it cannot be charged any royalty or licensing fees for use of the final product. Any proposal not specifically providing these rights shall be rejected without further consideration.

Deliverables Base Contract:

- Deliver five prototypes for operational test and evaluation (OT&E).

Contract Options:
Each option must be quoted (cost and period of performance) separately.

- OPTION 1 – Develop a semi-automated markup tool that leverages existing standards for facial features under comparison. The markup tool shall:

1. Allow the examiner to select and click on locations of the feature to be used in the analysis; reference the ASTM E3149-18 *Standard Guide for Facial Image Comparison Feature List for Morphological Analysis* for standard features for inclusion;
    a. Allow the examiner to link up to four additional images for inclusion in this markup and reporting process as a "set."
    b. When a feature is selected in one image in a set, the tool shall allow the examiner to select whether this markup is automatically propagated to all other images in the set.
2. Provide the examiner with a menu for feature identification from a system-provided list. This list shall have some "location" capability as described below:
    a. Common facial landmark detection techniques make it possible to automatically "locate" some features like eyes, eyebrows, nose, and mouth, but do not automatically locate others such as ears, forehead, or freckles. The tool must be

capable of accurately labelling the most common features when the user clicks on them, to include the eyebrows, eyes, nose, and mouth.
   b. When a user clicks on a space outside the most common features above, the tool must be intelligent enough to offer a candidate such as “left ear” or “forehead” based on the relative location of the cursor.
   c. In all cases, the user must have the option to select “blemish,” “scar,” or “other.”
   d. When “other” is selected, the tool shall provide the user with a text entry box for documenting the feature.
3. Use boxes, circles or arrows (examiner option) to annotate specific features;
4. Enable the examiner to determine whether the feature is “similar” or “dissimilar” from the system-provided list and provide the examiner with the ability to label it a “class” or “individual” characteristic;
5. Possess an enable/disable function to restrict the number of markup features the examiner may select in their identification; and
6. Export both PDF of findings and .CSV file for tracking of statistics of the features selected in each analysis.

- OPTION 2 – Develop a multi-image template capable of blending or pooling multiple facial images from an individual into a single template for comparison and generation of a fused facial recognition score.

- OPTION 3 – Integrate with the FBI Multimedia Processing Framework interface through the delivery of an OpenMPF analytic component.

A Firm Fixed Price proposal with a base contract period of performance of less than 15 months is preferred.

R4694 Situational Information at the Tactical Edge (INSITE)
Develop a software tool for sensitive site exploitation (SSE) and other information collection that can function on commonly available Android mobile devices in a structured and standardized digital format enabling effective, automated dissemination and analysis. The tool shall be loadable onto the Android device and enable users to capture data and images from sensitive sites and quickly generate standard multimedia reports and digital site sketches annotated with notes and photographs. The tool shall be capable of biometric capture of facial images, contactless fingerprints, and voice samples as well as record interviews. The collected data and generated reports shall be transmittable in real time and automatically processed for post-mission analysis and configured to be compatible in Department of Defense (DoD) Electronic Biometric Transmission Specification (EBTS) standard 1.2 and 4.1 conformant format for DoD Flat Print Rap Sheet (DPRS).

The tool shall have the following features and capabilities:
1. Require no additional hardware than any Android device to operate.
2. Integrate fully on any modern approved Android device with Android software version 9.0 and above. The goal is that the software tool shall be an Android agnostic application. It must integrate fully and be compatible with Samsung Galaxy S21Tactical, Samsung Galaxy Note 20 5G, and Google Pixel 6 and 7.

3. Function as an Android Tactical Assault Kit (ATAK) plug-in or standalone application.
4. Capture images from sensitive sites and crime scenes including close-up and long-distance shots.
5. Enable the user to create rough sketches and diagrams which can be stored with notes and annotations included and then converted to other formats.
6. Record audio-video lasting up to two minutes in length.
7. Perform on device enrollment and matching of biometric modalities including contactless fingerprints and face images to match against a DoD Biometric Enabled Watch List (BEWL).
8. Provide DoD EBTS 1.2 and 4.1 conformant format for DoD Flat Print Rap Sheet (DPRS) for collecting information on people (such as face, voice, and contactless fingerprints), places (SSE workflow), and things (standardized reporting).
9. Transmit and export wirelessly via 5G technology collected information, images, created reports, and missions logs in government open standard human/machine readable formats such as DoD EBTS standard 1.2 or 4.1 to Near Real Time Identity Operations (NRTIO) or DoD Automated Biometrics Identification System (ABIS), and Command and Control Information Environment Integration (C2IE).
10. Require two hours or less in training time for an operator to be able to fully employ all features and capabilities of the application during mission accomplishment. All training information shall be located on the Android device in a video format.
11. Conduct on device facial recognition and matching as well as fingerprint matching. The facial recognition shall achieve a confidence level of 90% when the iris to iris pixels count is 35 or better.
12. Image resolution of the application must be minimum of 480 by 320 pixel.
13. The storage capacity of the system on the device must be 256 gigabytes with an objective of 1.0 terabyte.

The developer shall thoroughly and comprehensively test the software in realistic scenarios. Additionally, the application shall be provided to certain end users for a 60-day testing period before final delivery. The end users shall extensively test the application and conduct experiments. The developer shall use the end users' test data, feedback, evaluations, and results to make modifications to improve the application's performance and ensure conformance to standards before final delivery.

The U.S. Government shall receive unlimited intellectual property rights for all software deliverables developed during this project. Any proposal not specifically providing these rights shall be rejected without further consideration.
Deliverables Base Contract: The final deliverables shall include the following:

1. A thoroughly tested and completed INSITE system loaded on 2 Samsung Galaxy S21Tactical devices; 2 Samsung Galaxy Note 20 5G devices; and 2 Google Pixel 6 or 7 devices.
2. A copy of INSITE source code with security scans documentation and written information associated to the security scans.
3. A comprehensive, easy to understand, video demonstration loaded on each device that explains the INSITE application's use and troubleshooting.

Contract Options:

- Option 1: The contractor shall deliver six additional prototypes as described in the deliverables paragraph.
- Option 2: The contractor shall deliver ten additional prototypes as described in the deliverables paragraph.

A Firm Fixed Price proposal with a base contract period of performance of less than 18 months is preferred.

R4695 DNA Reference Swab Processing Instrument

Design, develop, and validate a device for cutting the tips of buccal swabs and automatically placing the cut tips into a pre-designated 96-well plate. The instrument shall have the ability to cut a reproducible swab size and cut up to 96 swabs without having to reload the device. The device shall only cut the tips of the swab's head and place that swab cutting into the 96-well plate for later analysis. The instrument shall only prepare the 96-well plate and shall not perform any chemical extractions or analysis. The instrument shall include a tracking software to create barcodes or a numbering program to identify which swab and swab cutting corresponds to which well on the 96-well plate. The software shall have the ability to import barcodes and other identifiers from the currently existing laboratory information management system (LIMS) such as Sample Tracking and Control Software (STACS) application and be auditable. The final deliverable shall allow for rapid, upstream processing of large quantities of buccal swabs simultaneously. The overall vision for this device is to have the user load up to 96 swabs, walk away from the instrument, and return to a fully cut plate where all samples have been tracked throughout the entire process. Additionally, upon removal of the swabs, the device will automatically decontaminate itself.

The instrument shall have the following features and capabilities:

1. Function with a standard 96-well plate and a deep 96-well plate to ensure compatibility with currently existing downstream extraction instruments.
2. Ability to cut the following swab head types within the same run including:
    a. Cotton tip on a 6-inch wooden applicator (Puritan swabs)
    b. Cotton tip on a 6-inch plastic applicator
    c. Foam tip on a 6-inch plastic applicator
    d. Cotton tip on an 8-inch wooden applicator (Puritan Jumbo Swabs)
    e. Foam/wire bristle tip on a 6-inch plastic applicator
3. Capability to cut between 1/8-1/4 of the swab tip and retain the rest of the swab for re-testing purposes. The cut sizes shall be adjustable so that variable cut lengths can be acquired.
4. Place the swab cuttings into a 96-well plate without any assistance or oversight from an operator. The operator shall be able to load the device, walk away, and return to a fully cut plate.
5. Loading, cutting, and unloading the swabs shall require no more than three hours. The hands-on time must be less than 60 minutes.
6. Introduce no cross contamination between samples (i.e., preloading of swabs shall be in a sterile manner) and must include a mechanism to automatically sterilize the cutting

apparatus between samples. The mechanism must be a scientifically proven method for sterilizing items for short tandem repeats (STRs) DNA analysis.
7. Track all swabs (e.g., barcodes, numbering system, or step-by-step guide) so that each swab's location is known at all times during processing (e.g., loading, while in instrument, unloading).
8. Possess tracking software compatible with Windows 10, or the current U.S. Army required operating system, and McAfee Anti-Virus and operate on a laptop or desktop computer system.
9. Possess software that follows Security Technical Implementation Guides (STIG) and complies with the Federal Information Processing Standards (FIPS), accept Microsoft patches, and shall be Government approved.
10. Contain an output file in a delimited file format (i.e., excel, .csv, .pdf).
11. Include an operation and maintenance manual with a transfer protocol to a separate computer.
12. Be able to withstand sterilization of the instrument's hardware and deck with common laboratory reagents such as 70% isopropanol, 10% bleach, and ultraviolet (UV) light exposure.
13. Function on a lab benchtop (both traditional and expeditionary) and be encased for sterility, similar to the BSD600 Plus instrument.
14. Have dimensions that do not exceed 3' H × 2' D × 4' L.
15. Minimal preventative maintenance of the instrument that can to be performed by a layperson and a mean time to failure for the device of no less than one year.
16. Function using commercial-off-the-shelf (COTS) consumables to allow for easy implementation without extensive validation efforts.
17. Utilize electrical power that does not exceed 120 volts/10 amperes and have a power cord that protects against electrical surges to support expeditionary sites.

The developer shall thoroughly and comprehensively test the instrument and software with realistic forensic samples. Testing shall include undergoing developmental validation that complies with forensic validation standards and adherence to FBI Quality Assurance Standard 8 for DNA processing. Additionally, the instrument with all software shall be provided to the end users for a 60-day testing period before final delivery. Finally, the developer shall use the end user's feedback, evaluations, and results to make modifications to improve the instrument and software's performance and ensure conformance to standards before final delivery.

The U.S. Government must receive unlimited intellectual property rights to the instrument, software, applications, and any data developed or delivered during this project. Therefore, any proposal not specifically providing these rights shall be rejected without further consideration.

Deliverables:
The final delivery shall include three fully functional units, operation and maintenance manuals, and a copy of the software source code. The final deliverables for the base contract shall include the following:

1. Thoroughly tested and fully functional device for cutting the tips of buccal swabs and automatically placing the cut tips into a pre-designated 96-well plate.

2. Tracking software system to create barcodes or a numbering program to identify and track each swab through the entire sample preparation process.
3. User manual, a comprehensive scientific report, video demonstration on the operational use of the instrument, and all source code data developed under this project.

Contract Options:

- Option 1: The contractor shall deliver three additional prototypes as described in the deliverables paragraph.
- Option 2: The contractor shall deliver six additional prototypes as described in the deliverables paragraph.

A Firm Fixed Price proposal with a base contract period of performance of less than 18 months is preferred.

5.6. Human Performance and Training (HPT)

R000-HPT-FY23 Unspecified Requirement

The Human Performance and Training (HPT) subgroup focus is on addressing the most challenging problem sets associated with developing knowledge, skills, and abilities to deter, defeat, prevent, protect against, mitigate, and respond to national security threats. This unspecified requirement (R000) seeks solutions to enhance the operational capabilities of our U.S. military, federal law enforcement, and interagency customers involved in combating U.S. adversaries by optimizing performance for significantly improved readiness and mission execution. All submissions shall identify the anticipated end user and/or endorsing organization.

Key overarching areas of interest based on HPT's focus areas are: Technology that allows a learner to seamlessly interact with, and become immersed in a learning environment. Tools, technologies, and techniques for improving the design and validation of interactive and immersive learning technology. The full range of performance gaps and interventions to improve and sustain human performance. Methods, technologies, and programs based on cognitive and physiological principles that will optimize operator training, enhance mental and physical skills, and improve mission performance. Training and educational programs that employ novel instructional design, delivery methods, and concepts to accelerate and enhance learning.

More specific areas of interest include:

- Monitoring and exploiting human performance data (e.g., physiological state) within a training environment
- Human performance data analytics
- Wearable technology for operator state assessment
- Measuring and mitigating stress and mental workload
- Novel applications of immersive technology including virtual reality, augmented reality, and mixed reality
- Natural language processing (e.g., conversational interaction) within immersive, simulation-based training technology
- Cognitive skills development and assessment for those encountering complex problems and making high-risk decisions

- Human factors/usability for operational systems
- Human-machine teaming
- Subterranean detection and operations training, especially leveraging virtual, augmented, and/or mixed reality

Firm Fixed Price proposals with a base contract period of performance of less than 18 months are preferred.

Unspecified requirements (R000s) are for proposing unique innovations that have not yet been identified by IWTSD. Submissions against an unspecified requirement shall be responsive to the focus areas and topics noted. In addition, proposed technologies must not be a fully-developed commercially-available product. Proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized specified requirements. Because IWTSD does not budget for unspecified requirements, awards may not be made against them.

Note: Quad charts submitted in response to a Subgroup's R000 may be shared with other IWTSD Subgroups if the submission demonstrates relevance to that Program Manager's Focus Areas.

5.7. Indirect Influence and Competition (I2C)

R4737 Information Warfare Enabler Kit- Detachment (IWEK-D)
Existing Psychological Operations (PSYOP) equipment systems such as the Media Production Center-Light (MPC-L) are focused exclusively on outdated product development capabilities, and ignore other crucial aspects of PSYOP critical tasks such as influence network development, industry integration, and dispersed, decentralized operations with partner forces. Likewise, most equipment that is assigned to PSYOP units has been designed to be utilized in an overt tactical environment, not a regional/global one. This has created a distinct gap in which all gear looks highly conspicuous in non-conflict environments, dramatically increasing operational security (OPSEC) and force protection (FORCEPRO) concerns with its use. Current PSYOP Tactics, Techniques, and Procedures (TTPs) rely solely on SOFNET applications and military equipment, which has both high latency and the inability to interface with the majority of PSYOP networks and partners, simultaneously increasing the risk of exposing influence activity to strategic competitors.

The PSYOP Regiment has been testing and refining the concept of a commercial-off-the-shelf (COTS) based integrated solution for the Psychological Operations Detachment (PSYDET) called the Information Warfare Enabler's Kit- Detachment. This kit is designed to update and increase the organic capability of the PSYOP Detachment and form the foundation for additional development and integration of classified systems at the Company and Battalion level.

IWTSD is seeking solutions for the further development of The Information Warfare Enabler Kit, Detachment variant (IWEK-D), in order to refine the components of the kit, maximize component interoperability, develop cloud-based solutions for integration with existing planning tools, assist with the conduct of operational testing and evaluation (OT&E), and provide technical support for end-users.

The IWEK-D is divided into 3 distinct tools: The Product Development Tool, the Subject Matter Expert Tool, and The Effects Tool. Four sets of each tool comprise a single IWEK-D. As the tool kit has already been in testing, vendors will be provided with the current running list of components in the current IWEK-D kit as an annex to this announcement. Further documentation and additional evaluation information will be made available under upon contract award.

IWEK-D All

1. All equipment shall be stored and carried in non-tactical/military bags
2. All bags shall be waterproof not merely water resistant
3. Each of the kits shall present a unified aesthetic that can be attributed to a civilian industry equivalent for similar looking equipment. i.e, an e-sports (gamer) team member, a film crew, or a traveling business professional.
4. The kits shall be designed to be modular in nature.
5. Components shall be interoperable where possible without requiring additional cables/adapters components. i.e., USB-C for all mechanisms where possible
6. Battery powered equipment shall be able to comply with airline regulations on the transportation of lithium ion batteries.
7. All electronic equipment facilitating data entry or transmission cannot be manufactured in, owned by, or otherwise heavily influenced by Russian or People's Republic of China entities.
    a. If required component cannot be sourced from American or allied country, then equipment shall be audited for data connections and vulnerabilities linked to state owned enterprises.
    b. If no alternative is found equipment shall come with a software or hardware solution that prevents data from being accessible to PRC servers.
8. Provide solar based power solutions for austere environment operations.
9. Shall not be designed to interact with DoD peculiar networks, i.e., SOFNET; IWEK-D equipment should be designed and tested for use under a multiplicity of internet and connectivity conditions ranging from urban 5G enabled networks to satellite enabled 2G connectivity.
10. Each tool shall have:
    a. Its own portable power supply.
    b. USB data blocking attachments for cables.
    c. Rechargeable battery solutions for all devices that require standard batteries.
    d. Appropriate sleeves or cases for electronic equipment.

Product Development Tool

1. Product development tool shall include the ability to:
    a. Shoot 4K Video
    b. Shoot in night vision/low light conditions
    c. Have the ability to run mobile podcasts, audio interviews, and other similar capabilities
    d. Provide lighting solutions for visual product development
    e. Provide digital sound mixing solutions
    f. Provide solar based power solutions for austere environment operations
    g. Edit and store up-to 4 TB of digital material and content

    h. Provide audio production and storage capabilities
    i. Shall include supporting elements for production to enable professionalized production of audio-visual products.
2. Shall match a film crew aesthetic
3. All equipment shall be contained within a two 45-60L waterproof backpacks or briefcases or other comparable man-packable storage solutions.

Subject Matter Expert Tool

1. Subject Matter Expert Tool shall include the ability to:
    a. Computer for presentations shall have at least 8 hours of operational battery life on a single charge
    b. Project 4K quality video in an indoor environment and 1080p in an outdoor environment.
    c. Provide solar based power solutions for austere environment operations
    d. Provide a small form factor camera that is waterproof
    e. Provide Data blocking options for all USB components
2. Shall match a business professional aesthetic
3. Shall provide alternative bags for rural or austere employment.

Effects Tool

1. Effects Tool shall include the ability to:
    a. Passively monitor the surrounding Radio Frequency (RF) Environment
    b. Run multiple Virtualized Machines (VMs) with optimization for open source VM solutions such as VM-Ware, or Virtual Box
    c. Include the ability for the user to craft and monitor Internet of Things (IOT) devices created from open source components such as raspberry pis, Arduino boards, and USB GPS receivers.
    d. Shall be able to transmit data packets on the Wi-Fi, Bluetooth, and ZigBee ranges.
    e. Contain small form factor RF detection capabilities
    f. Shall have the ability to integrate open source IR cameras with small form factor boards.
2. Shall match either an “E-Sports”/gamer aesthetic or an IT professional’s profile.

Cloud Solution

1. Shall provide each computer in the kit obfuscatable access to a secure remote file transfer protocol solution.
2. Shall be able to store and download batch files, VM instances, compilations of open source tools, and configuration files for devices. Shall also be able to interface with DoD net on the backend, with no front facing DoD architecture.
3. Operators shall be able to, in an obfuscatable or non-attributional manner, interact with a cloud-based instance of C2IE, and ATAK or Win-TAK.

Government Furnished Information

1. Upon contract award, IWTSD will provide the following information:
    a. All previous testing data from iteration 1 of IWEK-D development.
    b. All testing data from iteration 2 of IWEK-D development.

c. Overview of the full-scope IWEK program proposal.

2. https://bids.cttso.gov/Resource/DownloadFile/1042

Contract Type and Period of Performance Expectations

1. The Base Contract shall contain the following deliverables:
   - Finalize development and deliver four (4) IWEK-D prototypes for CONUS Operational Testing and Evaluation (OT&E).
   - Develop and conduct operator level use and maintenance education materials to include written manuals and two (2) in person blocks of instruction at Fort Bragg North Carolina.
   - Design operability test parameters in concert with stakeholders for OCONUS Operational Evaluations (OPEVALS)
   - Develop and grant access to end-users to cloud-based, open source tool kit prototype for IWEK-D enhancement.
2. Contract Options shall include the following potential deliverables:
   - Purchase and delivery of updated replacement components for the previously delivered kits based upon the outcomes of CONUS OT&E.
   - Delivery of four (4) additional complete IWEK-D kits that are updated from the outcome of CONUS OT&E for OCONUS Operational Evaluations.
   - In-Person support for OCONUS OPEVALS.
3. A Firm Fixed Price (FFP) contract for a base period of performance of 12 months with contract options for additional 6 months of OT&E is preferred.

R4738 Multi-Role Denied Area Delivery System (MRDADS)
This requirement is an amalgamation of multiple operational needs sourced from a wide range of US SOF and conventional military organizations and elements operating in austere or denied environments—especially in Anti-Access and Aerial Denial (A2AD) conditions against near-peer competitors. Collectively, the capability gaps for the DoD are the need for low-risk, low-visibility, multi-purpose aerial platforms capable of providing austere logistics support, insertion of influence and information-related mediums, or performing Intelligence, Surveillance and Reconnaissance (ISR) functions. All require functioning deep in denied areas when employed against Great Power competitors.

IWTSD is seeking solutions for the development of the Multi-Role Denied Area Delivery System (MRDADS). Analogous to a modern version of the JB-2 crossed with modern aerial target drones, the MRDADS will function as a modular, expendable airframe to insert Air Delivery Vehicles (ADV) or Cargo Aerial Delivery Gyros (CADG), enabling precision air-to-ground delivery of various cargos deep into denied areas, across multiple dispersed locations simultaneously, without requiring an intricate chain of unmanned systems. MRDADS is intended to offer a solution to meet all of these capability gaps simultaneously, while remaining at a price point comparable to a munition, thus enabling use as an expendable, multi-purpose asset.

General Requirements

1. Shall be able to operate in day and night environments.
2. Shall fly at an altitude of at least 18,000 feet above sea level and have the capacity to operate underneath the cloud deck.
3. Shall consist of a lightweight frame utilizing biodegradable materials where feasible without sacrificing performance parameters.
4. Be multi-mission capable, using the same base aircraft to employ different payloads from an interchangeable payload area. The baseline platform shall be designed to release Aerial Delivery Vehicles (ADV) and Cargo Aerial Delivery Gyro (CADG).
5. The vehicle shall be able to be stored in, removed, and launched from a standard ISO in austere and degraded environments.
6. Capable of autonomous operations / programming. When in vicinity of potential adversary intercept, there will be no transponder-type capability that would be vulnerable to cooption or signal interference.
7. Shall utilize a "wave/pulsejet" style engine, or other low-cost power plant.
8. "-10 level" (i.e., user-level) PMCS and maintenance. Any maintenance beyond -10 level can be performed without Field Support Representatives and/or special/unique equipment outside U.S. Army MTOE.
9. Shall be able to operate in hostile, RF cluttered, and GPS Denied / Jammed environments.
10. Shall be able to maintain functionality in Electronic Warfare compromised environment.
11. Available at a price point comparable to a munition, thus enabling them to be used as an expendable asset, when appropriate. Minimum cost threshold for each MRDADS at small scale production is under 1,000,000 USD. Target cost for each MRDADS at mass production scale is under 250,000 USD.

Storage & Deployment Requirements

1. Shall be land deployable both by runway, and runway independent take-off and landing capability such as rocket assisted takeoff (RATO) or ground catapults.
2. Shall be designed to be released from high or low altitude by most common SOCOM aircraft Air deployable from the aft ramp of a C-17, C-130, CH-53, and V-22.
3. Shall be able to be transported in or by an LMTV or equivalent military vehicle.
4. The complete package (vehicles, launcher, supporting equipment) shall be able to be packed and transported in a standard ISO shipping container
5. Stored for a period of time under varying conditions in military containers and/or warehouses
6. Assemble and disassemble performed by a 12-person team or less.
7. Package in container or like item easily moved/lifted by 4 x PAX.

Payload Requirements

1. Shall have a payload carrying capacity of at least 510 lbs, with a target of 650 lbs and a minimum range of 1,500 NM; objective range of 2,500 NM or greater.

2. Be multi-mission capable, using the same base aircraft to employ different payloads from an interchangeable payload area with minimum modifications. The baseline platform shall be designed to release Aerial Delivery Vehicles (ADV), Cargo Aerial Delivery Gyros (CADG), and parachute-lowered cargo.
3. Shall be able to dispense an objective of 40, target of 100 ADVs in separate clusters over different target areas, or all simultaneously (ADV specifications are approximately H=22 in; D=4.25 in; 6.3 lbs each at max payload)
4. CADG/ADV is still in development and therefore a margin of error of ±5% regarding measurements and weights should be accounted for in initial proposal.
5. Shall be able to dispense an objective of 10, threshold of 6 CADGs in separate clusters over different target areas, or all simultaneously. (Projected CADG specifications are: H=48 in; D=12.5 in in standard configuration; 85 lbs each at max payload)
6. ADV and CADG payloads shall be capable of being re-programmed after loading.
7. Shall have automated release mechanisms for the various payloads.
8. Shall be able to dispense standard parachute-lowered cargo.

Landing & Recovery Requirements

1. Shall be able to land and be recovered without the need of a runway, similar to a target drone parachute recovery system.
2. Shall be recoverable by ground with standard military equipment such as a Light Medium Tactical Vehicle (LMTV).
3. When outfitted with secondary attachments, shall be able to float so as to be recoverable by sea, when necessary.
4. Asset must be able to be deployed in "recoverable mode" or "expendable mode" in which a self-destructive landing may be programmed to avert secondary use by adversarial forces.
5. Shall be engineered to be unfit for secondary use by adversarial forces when used in "expendable mode".

Other MRDADS Requirements

1. The baseline MRDADS platform with ADV and CADG insertion capability shall be initially developed with multiple fully functional prototypes. Operational Testing and Evaluation (OT&E) shall be supported through the certification of at least one ground-based deployment (e.g., ground-based "sling-shot" launch), with the option to certify on at least one airframe (e.g., C130). The developer shall fully demonstrate the ability to deliver ADVs and CADGs to multiple target areas during one flight; the ability to deliver ADVs and CADGs all simultaneously, and shall demonstrate both the recovery/re-use and one-way function of the MRDADS.
2. Additional concept sketches shall be developed for both larger and smaller versions, with basic estimates of size, range, payload capacity, etc. Based on the performance of the baseline MRDADS, options may be executed.

3. Upon contract award, the government will provide the following government furnished information:
    a. Aerial Delivery Vehicle schematics and testing data.
    b. Cargo Aerial Delivery Vehicle schematics and testing data (as they become available).

Contract Type and Period of Performance Expectations

1. The Base Contract shall contain the following deliverables:
    a. Develop MRDADS prototype for OT&E benchmarking.
    b. Develop and deliver two (2) MRDADS prototypes with full containerization to the end users.
    c. Develop and deliver new equipment familiarization and maintenance written materials.
    d. Develop and deliver one (1) block of in-person familiarization, employment, and maintenance instruction at Fort Bragg, North Carolina.

2. Contract Options shall include the following potential deliverables:

Contract Type and Period of Performance Expectations

1. The Base Contract shall contain the following deliverables:
    a. Develop MRDADS prototype for OT&E benchmarking.
    b. Develop and deliver two (2) MRDADS prototypes with full containerization to the end users.
    c. Develop and deliver new equipment familiarization and maintenance written materials.
    d. Develop and deliver one (1) block of in-person familiarization, employment, and maintenance instruction at Fort Bragg, North Carolina.

2. Contract Options shall include the following potential deliverables:
    a. Develop sufficient edge processing capabilities to enable successful operations in low bandwidth situations (send higher resolution stills or video clips slowly over BLOS, save Electronic Warfare/Signals Intelligence (EW/SI) data and send instead of FMV, later) 200 kB/s (T), 100 kB/s (O).
    b. Develop additional sea deployment method from aircraft carriers, amphibious assault ships, amphibious transport docks, dock landing ships, expeditionary mobile bases/expeditionary transfer docks, and any HLZ-fitted ship.
    c. Prototype smaller and larger versions with corresponding increase/decrease in range, payload capabilities.
    d. Develop and support certification of air-based deployment from at least one SOCOM airframe. Develop rack system to stack, lower, and deploy multiple MRDADS in larger cargo aircraft (C-130, C-17).
    e. Shall have additional, inexpensive payload options at various price points. Concept sketches and design drawings shall be provided for each of the sensor payload configurations and be proposed as contract options. Different payloads

beyond the baseline ADV/CADG configuration include Geospatial Intelligence (GEOINT), Signals, Intelligence (SIGINT), Electronic Warfare (EW), EO/IR and one additional sensor, and kinetic effects.

3. A Firm Fixed Price (FFP) contract for a base period of performance of 18 months with contract options for additional 6 months of OT&E is preferred.

R000-I2C-FY23 Unspecified Requirement – Enabling Indirect Influence and Competition
The Irregular Warfare Technical Support Directorate (IWTSD) seeks proposals for the research and demonstration of technically and operationally viable capabilities, methodologies and approaches to more effectively compete and achieve influence advantage across the informational, physical and cognitive arenas. Global adversaries of the United States and its partner nations employ a variety of tactics and strategies to wield power and exert influence over target populations throughout the international arena. These activities may threaten the interests of the United States and its strategic advantage, requiring innovation to more effectively and efficiently shape and prevail in the competitive landscape.

Proposals shall include solutions that:

1) Develop, test and deploy new tools, capabilities and concepts for understanding target motivation, morale and behavioral effects in order to deliver precise and rapid influence at scale to relevant populations in the informational and physical domains
2) Apply AI/ML technologies to expedite analysis and/or execution of influence, information, or military deception operations
3) Proactive measures to undermine Great Power competitors' mis- and dis-information, deception and other (e.g., financial) coercion activities
4) Bolster the proactive mindset shift required to succeed through unified action in Irregular Warfare missions in order to compete more effectively against all adversaries in IW

These projects shall advance high-technology readiness level (> TRL 6) prototypes, demonstrate new concepts and solutions that reduce risk to the U.S. and partner forces while eroding adversary motivation and influence and disrupting their sanctuaries, organizations, and enterprises. A Firm Fixed Price proposal with a twelve (12) to (18) month base contract period of performance is preferred.

Unspecified requirements (R000s) are for proposing unique innovations that have not yet been identified by IWTSD. Submissions against an unspecified requirement shall be responsive to the focus areas and topics noted. In addition, proposed technologies must not be a fully-developed commercially-available product. Proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized specified requirements. Because IWTSD does not budget for unspecified requirements, awards may not be made against them.

Note: Quad charts submitted in response to a Subgroup's R000 may be shared with other IWTSD Subgroups if the submission demonstrates relevance to more than one focus area.

5.8. Protection, Survivability, and Recovery (PSR)

R4741 Small Arms Overpressure Measurement System and Database
Repetitive overpressure exposure from small arms weapons is a contributing factor to Traumatic Brain Injuries (TBI). Current studies revolve around crew-served weapons and demo/breaching, while small arms data is limited. Initial monitoring of some weapons indicate there is likely excessive overpressure exposure for operators.

Develop a system to test and measure overpressure for five currently fielded weapons. Develop a comprehensive small arms overpressure library for the measurements to be stored. Instrumentation for the system shall include sufficient probes at various distances from the muzzle in a three-dimensional array with a two-meter diameter and be presented in a three-dimensional heat map. In addition, each event shall have the following data extracted and stored in a separate table:

- Peak Pressure
- Impulse Duration
- Frequency
- Impulse (pressure-time integral)

The Government shall provide all small arms as Government Furnished Equipment (GFE) for use in the data collection. The Government shall also provide a test site and weapon operators.

Deliverables Base Contract:
- Deliverables include one system with, at a minimum, associated software, raw test data, and user-friendly database.

Contract Options:
- Conduct another comprehensive small arms overpressure data collection. Deliverables include, at a minimum, updated associated software, raw test data, and an updated user-friendly database.

- Conduct another comprehensive small arms overpressure data collection in confined spaces. Deliverables include, at a minimum, updated associated software, raw test data, and an updated user-friendly database.

- Deliver an additional system with associated software and conduct another data collection on small arms overpressure. Deliverables include, at a minimum, updated associated software, raw test data, and an updated user-friendly database.

A Firm Fixed Price proposal with a base contract period of performance of less than eighteen (18) months is preferred.

R4744 Handgun and Augmented Fragmentation Protection for Eyewear
User acceptance of protective eyewear is highly related to fit, comfort, and maximum field of view. The typical end result is a highly-curved, often rimless, form factor for the lightweight polycarbonate products on the Authorized Protective Eyewear List (APEL). However, current eye protection has limited fragmentation protection that has not improved for decades. Satisfaction of all traditional eyewear requirements while increasing ballistic protection may not be plausible with current technology

Develop and demonstrate ballistic eye protection, in the form of either spectacles or goggles, that can protect users against:

- .22cal 17gr at 1180 ft/s as a threshold (T)
- .22cal 17gr at 1850 ft/s as an objective (O)
- 124gr 9mm RN FMJ at 1400+50 ft/s (O) 427 m/s

The solution shall provide a non-corrosive, hydrophobic, interchangeable lensed system suitable for day/night operations that meets optical impact ballistic protection and provides maximum unobstructed eye protection from sun, wind, dust, UV light, and saltwater sea spray while minimizing fogging in accordance with MIL PRF 32432A and ANSI z87.1-2010. The solution shall also mitigate near infrared (NIR) laser threats (O). Additionally, the spectacles shall provide comparable scratch resistance to current Special Operator Eyewear Package (SOEP) items as a threshold (T), or improved scratch resistance over current SOEP as an objective (O).

Deliverables for Base Contract:

- Deliverables include twenty (20) fully-functional Handgun and Augmented Fragmentation Eyewear Protection prototypes for operational test and evaluation (OT&E).

Contract Options:

- Option 1: Deliver fifty (50) fully-functional Handgun and Augmented Fragmentation Eyewear Protection prototypes for OT&E.
- Option 2: Deliver an additional fifty (50) fully-functional Handgun and Augmented Fragmentation Eyewear Protection prototypes for OT&E.

A Firm Fixed Price proposal with a base contract period of performance of less than eighteen (18) months is preferred.

R4745 Non-Standard Commercial Armor Product Performance Requirements and Test Methodologies
Many non-standard commercial armor products are designed and marketed to the DoD and federal law enforcement (LE) community with unverified or unverifiable performance claims. As a result, these products may not provide the level of protection that the LE community would expect.

Research and document the range of ballistic protection accessories not currently covered by NIJ 0101.06. Examples of products without performance requirements or test standards include, but are not limited to, neck protection, groin protection, shoulder protection, covert armor, and concealable armor inserts. Canvas the community for protection concerns and expectations. Recommend performance requirements and develop appropriate test methods for these accessories. Test methods for these performance requirements include, but are not limited to, shot patterns, backface deformation, impact obliquities, and non-uniform ballistic panels.

Deliverables for Base Contract:

- Deliverables include, at the minimum, recommended performance requirements, test methods, and final report of any findings pertaining to R4745 Non-Standard Commercial Armor Product Performance Requirements and Test Methodologies.

A Firm Fixed Price proposal with a base contract period of performance of less than twelve (12) months is preferred.

R000-PSR-FY23-BP Unspecified Requirement – Ballistic Protection
Significant technical progress has been made in the areas of R&D for ballistic protection materials and manufacturing techniques. Often, these advancements are unknown to the greater body armor community due to the specific nature of ballistic material acquisition. This unspecified requirement is meant to bridge the gap between end user knowledge and vendor capability.

Develop novel solutions to enhance the survivability of personnel to include both military and civilian communities involved in Irregular Warfare. IWTSD is interested in any innovative technologies or capabilities that will enhance individual protection and survivability, which a vendor believes would be of interest to the Protection, Survivability, and Recovery (PSR) subgroup. Specific areas of interest for the PSR subgroup are listed below but not limited to:

- Material capable of protecting against an expanded suite of threats when compared to the X Small Arms Protective Insert (XSAPI) plates at an areal density of ≤ 7.8 lbs/ft^2.
- New ballistic 3-D printing materials and or manufacturing techniques to improve ballistic and blast protection.
- Reducing the areal density of armor while maintaining the same level of performance.
- Enhancing mechanical properties of materials for defensive applications

Unspecified requirements (R000s) are for proposing unique innovations that have not yet been identified by IWTSD. Submissions against an unspecified requirement shall be responsive to the focus areas and topics noted. In addition, proposed technologies must not be a fully-developed commercially-available product. Proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized specified requirements. Because IWTSD does not budget for unspecified requirements, awards may not be made against them.

Note: Quad charts submitted in response to a Subgroup's R000 may be shared with other IWTSD Subgroups if the submission demonstrates relevance to that Program Manager's Focus Areas.

R000-PSR-FY23-CUAS Unspecified Requirement – Counter Unmanned Aerial System (CUAS)

Unmanned Aerial Systems (UASs) or "drones" have entered the commercial marketspace and are readily available for consumers to purchase at affordable prices. The ease of use and accessibility to this powerful technology has drawn attention to the potential harmful uses of UASs against U.S. and Israeli interests. Technologies have been successfully developed to detect, identify, and mitigate these commercially available, DoD Group 1 UAS threats at large facilities and man-portable technologies to protect temporary/dismounted operations. As drones with greater sophistication, speed, and size become more prevalent, it is imperative to stay ahead of the threat by developing new detection and mitigation technologies and delivering new capabilities to U.S. and Israeli warfighters.

Develop novel solutions to enhance Counter-UAS (CUAS) systems to improve detection, identification, tracking, and mitigation. Specifically, increase capability in areas against Group 3 UAS, while minimizing collateral damage to citizens, property, or commercial electronic spectrum in the immediate area of the mitigation of the threat UAS. Specific areas of interest for the PSR subgroup are listed below but not limited to:

- Acoustic detection of UAS
- Unintended emissions detection of UAS
- Passive radar detection
- Mitigation of inertia navigation/Way point dependent UAS
- UAS cyber mitigation
- Payload detection and mitigation
- Group 3 UAS mitigation
- Electronic mitigation
- Operations in GPS disadvantaged/denied areas
- UAS swarms
- Directed Energy

Submissions to R000-PSR-FY23-CUAS Unspecified Requirement – Counter Unmanned Aerial System (CUAS) must be of interest to both the U.S. Government and Israel Government in countering unmanned aerial systems. Funding for this requirement are set forth in accordance with National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 Section 1278. Contracts awarded shall be conducted in a manner that appropriately protects sensitive technology and information and the national interests of the United States and Israel. No contract awards will be made until appropriated funds are available from which payment for contract purposes can be made.

Note: Quad charts submitted in response to a Subgroup's R000 may be shared with other IWTSD Subgroups if the submission demonstrates relevance to that Program Manager's Focus Areas.

5.9. Surveillance, Collection, and Operations Support (SCOS)

R000-SCOS-FY23 CI/HUMINT EW Tool Kit

The Department of Defense currently lacks several essential operational capabilities necessary to counter or mitigate surveillance threats posed by foreign intelligence entities (FIE). DoD is seeking to understand the art of the possible in the field of electronic warfare and communications technologies to enable and protect CI/HUMINT operational activities. The DoD currently lacks a capability to detect, identify, and locate, unique and low power, short duration signals used by FIE with adequate stand-off range and with high fidelity (Advanced Cl Sensing Capabilities). DoD lacks a portable, low power, adjustable RF transmitter for use as "white noise" generator to counter adversary technical collection activities without interfering with civilian communications (Technical Surveillance Countermeasures Equipment). The DOD lacks the ability to reduce communications footprint through spoofing, masking, or obfuscating communications signals, including international mobile equipment identity (IMEI) number, international mobile subscriber identity number (IMSI) number, media access control (MAC) addresses and advertising technology (Ad-Tech) markers, for RF mobile radio transmissions and cellular-based VoIP radios (Agent Equipment: Radio).

Proposed Specifications and Key Performance Parameters (KPPs):

1. Advanced CI Sensing Capabilities: Investigate and propose technical solutions in sensor performance, size, weight, power and cooling (SWAP-C) for electronic warfare, electro-optical/infrared, MASINT, and other sensor modalities needed to detect, identify, and locate unique and low power, short duration signals used by FIE.

    1.1. Investigate and propose technical solutions to increase stand-off range to targets with aerial, airborne, and ground sensors supporting CI activities.

    1.2. Investigate and propose technical solutions to locate, identify and track FIE and persons of interest (POI) at increased ranges and avoid detection.

    1.3. Investigate and propose with reduced SWAP-C & visual signatures to enable biometric collection, biometric identification capabilities for concealable utilization.

    1.4. Investigate and propose onboard analytics for bioinformatics correlation.

    1.5. Investigate and propose low SWAP, low signature, optical sensors that can operate in adverse weather, low light conditions utilizing AI/machine learning to automatically detect, identify, locate & track POI at long range.

    1.6. Investigate and propose MASINT sensors to detect, track, identify or describe distinctive characteristics of fixed or dynamic target sources with improved fidelity.

2. Technical Surveillance Countermeasures Equipment: Investigate and propose portable low power, adjustable transmitters for use as “white noise” in the radio frequency (RF) spectrum to counter adversary technical collection activities.

    2.1. Capability must not interfere with civilian communications.

2.2. Capability must not compromise the physical security and technical integrity of sensitive facilities worldwide.

2.3. Capability should prompt to personnel when subject of technical surveillance, particularly from foreign adversaries.

3. Agent Equipment: Radios: Investigate and propose technical solutions to reduce communications footprint of operational activities.

3.1. Investigate and propose technical solutions to reduce communications footprint by spoofing, unmasking, obfuscating, including international mobile equipment identity (IMEI) number, international mobile subscriber identity number (IMSI) number, media access control (MAC) addresses and advertising technology (Ad-Tech) markers, for RF mobile radio transmissions and cellular-based VOIP radios.

3.2. Investigate and propose solutions to reduce size and wires for personal communications devices while mitigating signal security and signature reduction.

Firm Fixed Price contract proposal is preferred, will accept Cost Plus type proposals. Irregular Warfare Technical Support Directorate (IWTSD) is looking for solutions with periods of performance from six (6) to eighteen (18) months.

5.10. Tactical Offensive Support (TOS)

R4712 Intermediate High Velocity Assault Cartridge (IHVAC)
Tactical operators require a multi-purpose type cartridge that defeats current barriers at extended ranges. The tactical community has upgraded its assault weapons, but ammunition development supporting those weapons has not kept pace in further optimizing overall weapon system performance. With new ballistically efficient 6.5mm Creedmoor (CM) ammunition, increasing the maximum effective range is now achievable. IHVAC will provide tactical operators an improved multi-purpose type cartridge that demonstrates consistent accuracy to defeat current barriers at extended ranges. Through the use of novel case design, IHVAC will enable increased pressures over standard ammunition to increase muzzle velocity 200-300fps over the Multi-Purpose (MP) 6.5mm Creedmoor program of record round. The cartridge should demonstrate consistent accuracy to 1 Minute of Angle (MOA) (T=Threshold), .75 MOA (O=Objective) at 100 meters. The muzzle velocity requirements specified below are for commercial production loading practices in a 14.5” barrel. The cartridge should utilize a reliable source of supply for energetic powders/primers that are temperature stable within .4fps/degree F (T), .2fps/degree F (O). Controlling the manufacturing processes of the cartridge case, projectile, primer, powder, and all facets of the loading, assembling, and packing procedures will allow this requirement to be met. Ultimately, the IHVAC will enable tactical teams to hit extended range targets with higher first shot probabilities.

System Attributes:

1. Caliber: 6.5mm Creedmoor (CM)
2. Muzzle Velocity: 2850 fps (T), 2950 fps (O)
3. Muzzle Velocity Standard Deviation: 13 fps (T), less than 8 fps (O)

Quad charts shall specify manufacturer-specific approaches to reduce variances on the following variables as performance characteristics in manufacturing techniques:

1. Concentricity
2. Cartridge Base to Ogive (CBTO)
3. Powder:
    3.1 Powder moisture content
    3.2 Powder grain size
    3.3 Powder homogeneity
4. Cartridge case consistency (thickness and volume)
5. Neck tension
6. Projectile meplat consistency
7. Projectile surface finish

DELIVERABLES:

Base Contract – Develop and deliver 20,000 IHVAC prototype rounds of ammunition for developmental testing.

Options – Deliver up to 20,000 additional prototype rounds for SOF and/or Service components Operational Testing & Evaluation (OT&E).

A Firm Fixed Price Contract proposal is preferred; base contract period of performance not to exceed twelve (12) months.

Responses to this requirement should include a proposed post-development end-unit ROM cost for prototypes.

R4713 Multi-Function Muzzle Device (MFMD)
Tactical operators require an advanced family of Multi-Function Muzzle Device systems capable of increasing the ability to hide flash, improving muzzle brake, and enhancing sound suppression all in an easy to employ capability, which functions across a variety of Program of Record (POR) calibers and weapon systems.

These rapid, easy-to-use systems shall be employed by individual operators in both operational and training environments. The MFMD shall minimally impact point of aim, point of impact when deployed and shall improve overall performance in relation to suppression of muzzle flash at the end of the suppressor, the function of a muzzle break, sound suppression, and shall ensure forward flowing gas release out and away from the shooter.

MFMD systems shall interface with existing POR weapon systems. These small, affordable systems can be employed and used by the individual operator for operational and training purposes ensuring minimal impact to size, weight, and performance of the weapon system. These

systems shall meet existing POR suppressor performance standards to include lifespan of the device.

MFMD system attributes and performance standards:

1. System shall provide muzzle brake, flash suppression, and sound suppression in one complete component or in multiple components that can be used individually or completely integrated as required.
2. The MFMD solution shall be developed in the priority order for the weapon systems listed below:
    - .338 Lapua Magnum bolt gun with a 28-inch barrel
    - 7.62mm NATO gas gun with a 16-inch barrel
    - 5.56mm NATO gas gun with a 11.5-inch barrel
    - .300 Blackout gas gun with a 7.5-inch barrel

    a. Point of aim, point of impact – Minutes Of Angle (MOA) shift must be repeatable – remains the same 0.5 MOA or less at 100 meters (T=O)
    b. Shall not impact base weapon performance – overall accuracy is not negatively impacted when adding the MFMD, weapon accuracy remains the same
    c. Muzzle brake portion of MFMD thread pitch and diameter may differ according to the caliber category of the specific weapon systems
        i. MFMD systems remain the same design in weapon systems specified
        ii. US thread pitch shall be accommodated as necessary based on the weapon systems specified
3. Optimize MFMD size – assess both diameter and length for optimized performance
    a. Minimize rotational movement of the weapon around the balance point
4. Performance attributes
    a. Flash suppression: < 3 lux (T), 1 lux (O) – measured at the end of the suppressor at night
    b. Sound suppression 140db at shooters ear (T=O)
    c. Recoil reduction (impulse rate) in the .338 Lapua Magnum bolt gun with a 28-inch barrel – 30% improvement (T), 40% improvement (O)
    d. Compared to the same weapon system without MFMD, the cyclical function shall not exceed 5% rate of increase in bolt carrier speed (T), shall not be affected (O)
5. Material composition – lighter materials are preferred – i.e., Titanium, Inconel
6. Means of attachment – must ensure minimal impact to point of aim, point of impact and remain attached under extremely stressful conditions (repetitive fire, blunt impact) (T); have quick detach MFMD variant (O)

Deliverables:

Base Contract:

-Develop and deliver 20 complete MFMD prototypes for the following weapon systems, for developmental and Operational Test and Evaluation (OT&E):

- .338 Lapua Magnum bolt gun with a 28-inch barrel
- 7.62mm NATO gas gun with a 16-inch barrel
- 5.56mm NATO gas gun with a 11.5-inch barrel

- .300 Blackout gas gun with a 7.5-inch barrel

Contract Options:
-Deliver up to 50 additional complete MFMD prototypes for precision weapons for the following weapon systems for follow on OT&E:

- .338 Lapua Magnum bolt gun with a 28-inch barrel
- 7.62mm NATO gas gun with a 16-inch barrel
- 5.56mm NATO gas gun with a 11.5-inch barrel
- .300 Blackout gas gun with a 7.5-inch barrel

*Base and all options shall be provided with New Equipment Training, Video Sustainment Training, and Quick Reference materials

A Firm Fixed Price Contract proposal is preferred; base contract period of performance not to exceed twelve (12) months.

Responses to this requirement should include a proposed post-development end-unit ROM cost for prototypes.

R4714 Next Generation Spotting Scope (NGSS)
Users are currently seeking the next generation spotting scope. With the development and implementation of Extreme Long-Range (ELR) weapons, there is a need to increase spotting capability in combat or non-combat conditions, which will require high resolution, magnification and image stabilization to spot bullet impacts, bullet trace, personnel, and equipment at extreme distances. Users require the ability to Positively Identify (PID) personnel and identify military/non-military uniforms and equipment at extreme distances, from an NGSS mounted on a tripod, in windy conditions (15-30mph). Users must match spotting capability to ELR weapons systems. Users must have the ability to conduct forward observation in combat and non-combat conditions at extreme distances. Additionally, users require the most capable spotting scope system to conduct efficient and effective training for a variety of applications.

NCSS system attributes and performance standards:

1. Through the use of higher resolution and image stabilization, the NGSS shall have the ability to PID personnel and identify military/non-military uniforms and equipment, as well as observe bullet trace at 1,500 meters (T) and bullet impacts in dirt and rocks at 2,000 meters (T), 3,000 meters (O) mounted on a tripod in windy conditions (15-30 mph) (T=O) to make rapid second shot corrections.
2. Image stabilization capability shall be turn-on and turn-off, and have a continuous run time of 4 hours on internal batteries (T=O)
3. The NGSS housing shall not exceed 16 inches (T=O). The complete system with tripod and ancillary mounts shall weigh less than 14 pounds (T=O).
4. The NGSS shall be compatible with fielded DoD Programs of Record (POR) Laser Range Finder (LRF) systems (T=O).
5. The NGSS shall have a digital overlay capable of receiving and displaying external information internal to the viewing window via a micro data display through both a

wireless and wired (T=O) connection that can receive external information from the fielded DoD POR Laser Range Finder (LRF) systems, Kestrel, Android Tactical Assault Kit (ATAK) and Applied Ballistics widget in ATAK (T=O).

6. Digital overlay shall be located at the top center of viewing area, be see-through, and shall not obscure the users primary viewing area (center) of the sight picture or cause any degradation of image quality (T=O).
7. The NGSS shall be capable of displaying the following information from the LRF - distance (range), ballistic holds (windage and elevation), rifle cant indicator (T=O).
8. Information shall be on/off selectable and user configurable easily (T=O).
9. Brightness shall be adjustable with auto shut-off (T=O).
10. Ability to display wind in MPH and direction/angle (O).
11. The NGSS shall include a dual wire switch allowing for the activation and control of the DoD POR fielded LRF systems and attachment of a data wire from the LRF (T=O).
12. Ability to mount LRFs, optics, and ancillary equipment via rails integral to the NGSS housing at the 3,9,12 o'clock positions to maintain boresight of the NGSS during handling (T=O). The NGSS shall incorporate a forward picatinny rail for Night Vision clip-ons (T=O) (INOD BLOCK III and FLIR HISS baseline).
13. The NGSS shall include a Miniature Red Dot (MRD) sight capable of being mounted at the 3, 9, 12 o'clock positions (T=O) for rapid orientation to downrange targets.
14. Ability to switch between a single eye piece (T), dual eye piece viewing ocular (O).
15. The NGSS shall include a protective ocular cap, objective cap/cover that can be used as laser protection and break up objective lens (T=O). Shall also include signature reduction eye cup to reduce off axis detectability (T=O).
16. Powered by commercially available batteries (e.g., AA or CR123) (T=O). The NGSS shall have the ability to be powered externally (T=O).
17. Shall have a continuous variable optical magnification range of no less than an 8X magnification to no greater than a 20X magnification on the low range. Shall have a continuous variable optical magnification range of no less than a 45X magnification to no greater than a 60X magnification on the high range with a course and fine focus capability. (T=O)
18. Objective lens diameter shall not exceed 80mm. (T=O)
19. The scopes shall have illuminated reticles that are adjustable in intensity (T=O).
20. Each intensity setting shall have an adjacent or alternating OFF setting (T=O).
21. There shall be no stand-by mode or auto OFF features for the reticle illumination (T=O).
22. The NGSS shall include a robust ruggedized lightweight tripod that can be adjusted from prone to standing positions (T=O). The tripod head interface with the NGSS must allow for 360° smooth friction movement up and down, as well as cant adjustment capable of withstanding windy conditions (15 mph - 30 mph) (T=O).
23. The NGSS shall include a soft case and hard transport case, and any necessary tools for adjustment and tightening of components (T=O).
24. Proposal shall include in the technical approach, the horizontal and vertical fields of view at low end and high-end magnification ranges achievable within the requirements listed above.

Deliverables:

- Base Contract:

Phase 1: Develop and deliver twelve (12) Next Generation Spotting Scope prototypes for CONUS Operational Testing and Evaluation (OT&E).

- Contract Options:
  Phase 2: Deliver up to thirty (30) Next Generation Spotting Scope prototypes for CONUS OT&E, and Combat Operational Evaluations (OPEVALs).

*Base and all options shall be provided with New Equipment Training, Video Sustainment Training, and Quick Reference materials

A Firm Fixed Price contract proposal is preferred; base contract period of performance not to exceed eighteen (18) months.

Responses to this requirement should include a proposed post-development end-unit ROM cost for prototypes.